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A publication of the Southern African HIV Clinicians Society

Focus on Advanced HIV Disease (AHD)

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ADVANCED HIV DISEASE COURSE

Advanced HIV Disease (AHD) is defined as:

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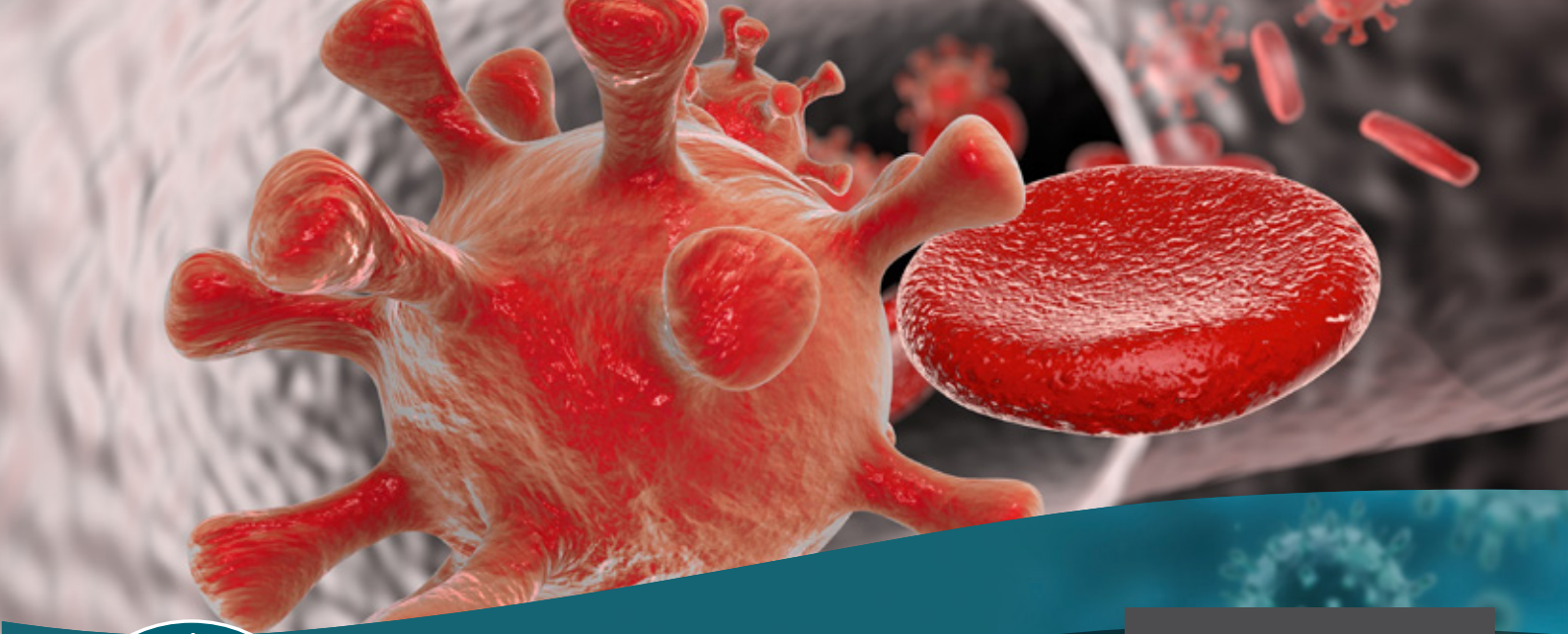

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HIV Nursing Matters focuses on Advanced HIV Disease (AHD)

HIV NURSING MATTERS

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Summary of articles from our guest editor and

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We are excited to present another edition of *HIV Nursing Matters*. This edition comes almost 20 months since we have been dealing with the COVID-19 pandemic. We know that COVID-19 has negatively impacted various primary-level care services, including HIV and TB services. SAHCS has been advocating for HIV and TB services not to be forgotten during hard lockdowns and we are excited that this edition has mostly primary health focus. This edition is also a reminder of the bravery of our colleagues in the frontline and the passion of our research colleagues who continued dedicating their time to research. In the past 20 months our colleagues throughout the country have ensured that routine primary health services have been protected and that general services continue despite the raging COVID-19 pandemic. We trust that, with increasing number of fully vaccinated clients against COVID-19, we will soon be returning our primary and general health care services to near normal levels.

This edition of HIV Nursing Matters provides some fascinating insights on various issues on Advanced HIV Disease across the primary health services, HIV management, new TB test (LAM), new ways of testing for COVID-19, discussions on weight gain and ART, improved management of HIV in paediatrics and adolescents, screening for cervical cancer, management of cryptococcal meningitis, the flucystone access program partnership between Clinton Health Access Initiative (CHAI) and the South African National Department of Health, the rollout of Dolutegravir in the South African ART program, the synopsis of how have we done as a country to protect the right to healthcare as enshrined in the Bill of Rights during COVID-19, and recommendations from HIV testing counsellors. We would all agree that these are day-to-day issues that face our colleagues at the coalface and credit to the authors and the editorial team for this edition.

Noting the importance of testing services in management of COVID-19, Wolter *et al.* enlighten us on how SARS-COV-2 Antigen testing offers an alternative option for diagnosis of active SARS COV-2 infection. This is critical as Antigen testing provides quicker turnaround time of results and can be utilised at point of care. Two articles deal with management of Cryptococcal Meningitis; with Garcia *et al.* giving insights on the flucytocine access program partnership between Clinton Health Access Initiative (CHAI) and the South African National Department of Health and the progress made in the rollout of this important program, and Comms et al. look at considerations in HIV associated Cryptococcal Meningitis (CM): taking us through the diagnosis and managing a patient with CM, dealing with a patient refusing LP, discussing the current regimens and brief discussion on new treatment of CM. These articles are a reminder about CM which is an important cause of mortality among both ART-naïve patients and ART-experienced ART HIV-seropositive adults, and they enlighten us on current treatment and progress made in management of CM.

In 2019, HIV Clinical guidelines were revised to include a new formulation of the fixed dose combination of Tenofovir (TDF) 300mg + Lamivudine (3TC) 300mg + Dolutegravir (DTG) 50mg (TLD) for all eligible adults. We have been gaining experience as a country in the use of DTG. Thisedition has a poster which simplifies the switching of stable ART patients on first- and second-line ART to DTG containing regimens and two articles take a look at DTG, one presenting emerging evidence that DTG safety risk is less than signaled and that it is now clear that the benefits of DTG far outweigh the potential risks for all populations, with Bosch discussing DTG and weight gain and recommending switch from DTG should a patient develop metabolic consequences and significant weight gain. Chandiwana also explores the issue of weight gain in ART, and gives a viewpoint from an HIV physician and calls for a clearer guidance to inform clinical management for clinicians in LMICs where the issue of weight gain is more prevalent and alternatives to DTG-based regimens are limited.

We also present an interesting article on the importance of focusing on Paediatric and Adolescent ART management in South Africa and the role of the Paediatric and Adolescent HIV Matrix of Interventions (MOI) by Maharaj et al., where the important role of frontline healthcare workers in implementation of the MOI and the significance of this in South Africa reaching 95-95-95 targets.

Ramotshela *et al.* enlighten us on "Moving towards the elimination of cervical cancer" and provide current recommendations for screening and treating cervical pre-cancer lesions and the implications of these recommendations for nurses in South Africa. Nqaku *et al.* look at the issue of right to healthcare during COVID-19 pandemic in South Africa and remind us that South Africa has enshrined the Bill of Rights in the constitution and discusses how COVID-19 laid bare the inequalities within the South African society.

Bald *et al.* provides us with recommendations and perspectives from HIV testing counselors in the community on how gaining and sustaining trust between the patient and the healthcare system can be useful in the country reaching the 95-95-95 targets.

The emergence of easier to use POC tests using urine to identify TB (by detecting the mycobacterial LAM antigen), has been a welcome addition to the TB diagnostics environment and provides with early diagnosis of TB. The poster on TB LAM Diagnostic Algorithm provides a simplified explanation on use of LAM in different settings, clinical state of the patient and how to proceed with LF-LAM positive or negative results. I hope you enjoy reading this issue of HIV Nursing Matters and gain insights from reading it that will translate in to better care for our patients. I hope too that we will share this knowledge with our colleagues as we march towards 95-95-95 targets through practicing evidence-based care.

Flucytosine Access Programme In South Africa

Andrea Garcia[1], Desmond Munemo[1], Lauren Jankelowitz[2], Nelesh P. Govender[3], Rudzani Mushau[4], Amir Shroufi[5], Yunus Moosa[2]

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Summary

The Clinton Health Access Initiative (CHAI) accepted the invitation of the South African National Department of Health (NDoH) in 2019 to provide support with provision of flucytosine (5FC)[1] to target facilities until registration of this commodity with the South African Health Products Regulatory Authority (SAHPRA). This work entailed building off from a previously established programme by Médecins Sans Frontières (MSF), seeking permission to venture into new provinces and identifying and recruiting new 5FC facilities. With the support of NDoH and the national Advanced HIV Disease (AHD) Task Team, CHAI committed to re-introduce, scale up and provide timely access to an affordable and unregistered antifungal medicine aimed at saving lives of cryptococcal meningitis (CM)[2] patients. To date, over 70 sites across provinces benefit from access to this critical commodity.

Background

The inception of the 5FC access programme should be understood both within South Africa's immediate HIV epidemic and current global context where approximately 181 000 people succumb to CM each year, with the bulk of this burden occurring in sub-Saharan Africa where cryptococcal disease remains common amongst adults living with HIV and persons with severe immunodeficiency[3,4]. It is estimated that the use of 5FC, a key antifungal medication in the treatment regimen for CM, could reduce mortality in hospital by as much as 40% compared to the current standard of care, yet it remains largely inaccessible in Africa[5], the very place where it is required the most[6].

The 5FC National Access Programme

To reduce the mortality of CM among people living with HIV (PLHIV) in South Africa, Médecins Sans Frontières (MSF), and the Southern African HIV Clinicians Society (SAHCS) established an access program for 5FC at 15 target sites in 2018. In June 2019, based on the ACTA clinical trial data, the National Essential Medicine List Committee (NEMLC) conducted and published a 5FC cost-effectiveness analysis concluding that making 5FC available would not only improve patient outcomes but allow for the average hospital admission duration to be potentially shortened to one week, consequently reducing the burden of care on the public healthcare system[7]. Consequently, NEMLC concluded that 5FC should be considered for inclusion to the National Essential Medicines List (EML), pending SAHPRA registration of 5FC.

As the programmatic work was beginning to take shape, a national Advanced HIV Disease (AHD) Task Team was established in 2019 to support the NDoH on the implementation of a robust AHD package of care, including the prophylaxis, testing, and treatment of key opportunistic infections, such as CM and tuberculosis (TB). One of the key objectives of the AHD task team is to ensure that South Africa continues to provide access to optimal CM treatment and to generate evidence to inform eventual national guideline adoption, pending generic 5FC product registration with the SAHPRA.

In 2020, the National Department of Health Director-General (DG) acknowledged and accepted CHAI's donation of 5FC. Upon receiving approval from the NDoH, CHAI engaged the provincial Head of Departments (HoD) to comply with respective provincial donation acceptance processes. The donation acceptance by all provincial HoDs was a critical step towards accelerating national scale-up for 5FC.

Concerning recruitment of facilities, once a facility confirms interest in joining the 5FC access program, the next step entails enrolment of medical specialist and/or nurse members of the Infectious Disease and Internal Medicine departments in an online training course on "Management of Cryptococcal Meningitis" provided by SAHCS[8]. The training comprises of a webinar, assessments, practical cases, and includes online and offline functionality. It takes between 4 and 16 hours to complete, depending on one's experience working with CM patients. In addition to the SAHCS training, medical specialists are linked with the Infectious Disease departments of facilities currently implementing flucytosine treatment for CM who are available for mentoring and guidance.

5FC Regimen and Mortality Outcome

From July 2018 to March 2020, 598 patients with CM at 21 hospitals, where the National Institute for Communicable Diseases had set up an enhanced surveillance programme for CM, received a 5-FC-based induction regimen and 943 received other regimens. Overall, the crude in-hospital mortality for patients on 5-FC-based regimens was 24% (143/598) compared to 37% (351/943) for patients on other regimens. After adjusting for confounding variables, patients receiving a 5-FC-based regimen had a 53% reduced mortality compared to those patients on other regimens. The median length of hospital admission for patients treated with flucytosine was also shorter (10 days) versus 14 days for patients on other regimens.

How do Facilities Gain Access to Flucytosine?

For more information or further questions on accessing 5FC, facilities may contact Desmond Munemo at dmunemo@clintonhealthaccess.org

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The Southern African HIV Clinicians' Society supports the South African Pharmacy Council (SAPC) government gazetted amendment of the Pharmacy Act, 53 of 1974

The context

PIMART is a public health response to a public health crisis that South Africa has been grappling with for over 17 years – it aims to provide increased access to HIV treatment, prevention, and care to hard-to-reach and under-serviced individuals who are unable or unwilling to access care provided by current conventional systems. More than 7 million South Africans are living with HIV, more than 2 million of which are not accessing treatment[1,15]. This is in addition to individuals at high risk for acquiring HIV that are currently not accessing well established and highly effective HIV preventative strategies such as pre-exposure prophylaxis (PrEP)[2,3,4]. Early HIV diagnosis and initiation of ART is not only important in reducing morbidity and mortality but is also vital in reducing community viral load and transmission[5,17].

Pharmacies are the portal of entry to care for many individuals seeking health services[6,7,8]. Pharmacists are currently able to safely administer chronic medications, over-the-counter medications for acute illnesses, and contraception. Research shows that approximately 100,000 young women access emergency contraception through pharmacies every month, across the country[9,19]. In South Africa, private sector pharmacies have an extensive reach into both the traditional public sector and the relatively lower income/cash-paying side of the private sector. Pharmacies extend into deep rural, peri-urban and urban areas, working extended weekend and evening hours, with some open 24 hours a day, 7 days a week[19]. With this accessibility, pharmacies provide an additional primary health care entry point for thousands of people who currently fall outside the formal public health sector[6,8,10]. PIMART, through its trained and accredited pharmacists and nurses, can provide a viable and valuable addition to the current HIV services, thus increasing access to HIV prevention and first-line treatment. In essence this is equivalent to the Nurse Initiated Management of ART (NIMART) programme, which has found huge success in improving access to HIV care in the public sector[11,12,13].

The need

Research shows that it can be difficult to reach men through traditional clinical services[14]. HIV stigma and discrimination, along with extended working hours prevent men from enrolling in HIV programmes[4,14]. In addition, much of the HIV burden in South Africa is carried by women (15-49 years) with over a fifth (23.9%) living with HIV[1,3,15]. Vulnerable key populations such as men-who-have-sex-with-men (MSM), sex workers, and the transgender and gender diverse community, reluctant to access HIV care through established systems, are effectively denied available prevention and treatment options[16]. An important barrier to uptake of PrEP services is the distance of PrEP providers to those in need[2,3,4,16]. It is critical we address this in a carefully crafted, coordinated, and multisectoral response.

Efficacy of PrEP and PEP is dependent on same day initiation[1,3,11,12,13,15]. Rapid initiation of ART is safe and effective[12,15]. Conservative algorithms built into a digital Disease Management System, that allows for easy, convenient access, referral and follow-up, is the backbone of PIMART.

Pharmacies extend into deep rural, peri-urban and urban areas, working extended weekend and evening hours, with some open 24 hours a day, 7 days a week[19]. With this accessibility, pharmacies provide an additional primary health care entry point for thousands of people who currently fall outside the formal public health sector[6,8,10].

PIMART and how it can help

The Expanding Access to PrEP, PEP and ARVs Innovation consortium (EPIC) started conducting research to establish this programme (https://4eachother.org.za/) almost three years ago, and during this this time consulted extensively with both the private and public sector. The initial phase was funded by the USAID and the project has generated interest from other donors including the Bill and Melinda Gates Foundation. The consortium developed PIMART to improve access to HIV treatment and prevention services and move the country towards reaching the 95-95-95 goals, by adopting established approaches to task-shifting such as standardised, simplified treatment protocols and access to virtual decision support[17].

The PIMART training course consists of 19 intensive learning modules and includes detailed assessments, MCQs, and video recorded and face-to-face cases. Certification requirements include the submission of a portfolio of evidence, and a final exit assessment. Central to the programme is patient safety, thus, PIMART is strictly aligned to the latest guidance and safety protocols and has stringent criteria for enrollment into the course and the programme.

A team of expert HIV clinicians played an integral role in course development, and in the development of a digital support system, the PIMART Disease Management System (DMS), which was created by Digital Health Cape Town (DHCT). The DMS is monitored by Ezintsha (a division of the WITS Health Consortium). The DMS is designed to provide support to the pharmacist by aiding decision making, prompting necessary care, flagging safety concerns and triggering referrals to doctors when indicated. The programme emphasises patient centricity through high-quality, coordinated and sustained care.

Individuals need to meet strict criteria to access HIV services through PIMART. These include: a CD4>200, ART-naive, over 15 years of age, not pregnant or breastfeeding, no suspected co-infections such as TB, cryptococcal meningitis or STIs. Thus, only stable, healthy individuals without comorbidities and not on other contraindicated medications will be included. The pharmacist will refer all individuals not meeting inclusion criteria to the GP HIV-provider network, or into the public system.

Currently, over 600 pharmacy healthcare workers, including GPs and nurse practitioners, have been trained. The PIMART DMS has been piloted across 60 pharmacies and 500 individuals. During the pilot period, SAHCS have demonstrated the delivery of high quality, affordable care for uncomplicated HIV via PIMART[9,18]. There are a further 600 pharmacy healthcare workers currently completing their training, and as of writing, 450 pharmacies that are 'permit-ready'.

Programme requirements

Further requirements include:

- The pharmacy needs to be GPP compliant with SAPC – thus meeting criteria for a grade A or B pharmacy;
- An SLA that mandates the use of the DMS, which guides the pharmacist through the entire consultation process, must be signed;
- Additional insurance must be taken out;
- Private consultation rooms must be available;
- Bloods may only be taken by a registered phlebotomist, such as an in-house professional nurse, or patients must be sent to an affiliated pathology lab. Pharmacies that do not have a professional registered nurse on the premises are allowed to enrol provided they have Primary

Care Drug Therapy (PCDT) permits since such pharmacists are trained in clinical assessments (barring the phlebotomy). Alternatively, these pharmacies must have a nurse or GP they can easily refer to, and/or have a relationship with a nearby lab;

- Wi-Fi availability to allow both the client and the healthcare worker to access the support provided is essential;
- The pharmacy must be linked to an HIV specialist for referrals and advice, via the Vula Mobile app or have contact with their own GP network, or access to the SAHCS HIV-provider network for referral and supervision[9,11,18].

Supporting PIMART pharmacists

Primary care providers such as family practitioners and public health primary care facilities are vitally important to the programme. Pharmacists are encouraged to work alongside a broad network of GPs, including those engaged in the telemedicine support of PIMART. The telemedicine GPs accompany the pharmacist through a virtual consultation and the GP utilises the DMS to provide the script and treatment plan for the client when needed. Pharmacists are required to either access supervision, advice and support through telemedicine, an arrangement with a local GP, or via the Vula Mobile App (https://www.vulamobile.com/), whereby they can timeously contact an HIV specialist for advisory support.

Ongoing Monitoring of the Programme

Appropriate and rigorous monitoring of PIMART is important to ensure that each individual is provided with best practice care. All PIMART permits, once issued to accredited pharmacists, require periodic renewal and permit retention requires annual attendance of a CPD-accredited HIV training course. SAHCS is already actively engaging pharmacists in continuous medical education opportunities along with providing them with SAHCS membership, thus enabling them to remain up to date with the latest developments within the field of HIV. Furthermore, the SAHCS guidelines team review pharmacist prescriptions and the DMS data regularly, while Ezintsha, Vula Mobile and independent pharmacy groups employ doctors for ongoing clinical supervision and quality assurance.

Moving forward to 95-95-95 goals

This innovative approach to the provision of HIV prevention and care services is a global first. It will allow for better referral, easier access to PEP and 1st line ART, and proactive adoption of PrEP. South Africa has come far in providing ART services, transitioning from HIV care provision by specialists only to include GPs in 2001, and then a rapid expansion and roll-out of programmes through nurse clinicians (NIMART) in 2004[11]. A natural progression to include pharmacists will improve access and serve as an important step forward to achieve aspirational goals[6,8,17]. The focus remains on safely and conveniently enabling an additional cadre of healthcare worker that is able to provide meaningful care to patients in need.

SAHCS has been supporting and strengthening the HIV knowledge and capacity of its 10 000+ members and extended healthcare community since 1998. Our commitment is to support a well-coordinated programme that meets the highest standards of accountability and that promotes knowledge sharing and mutual learning (http://www.sahivsoc.org). We encourage GPs to join the SAHCS GP referral network and to enrol into one of the SAHCS's HIV courses.

See more info here: https://sahivsoc.org/Subheader/Index/join-the-accredited-gp-provider-network and https://sahivsoc.org/OnlineCourse/Index

Pharmacists are encouraged to work alongside a broad network of GPs, including those engaged in the telemedicine support of PIMART.

By joining forces, the HIV expert, GPs, nurses and pharmacists can reach out to new clients. By getting more people into the pharmacies, GPs can expect increased referrals for HIV-related illness and comorbidities[8,19]. When we connect and work as a team, we can improve access and provide better care to all those in need. No one should be left behind!

EPIC Programme organisations

Ezintsha

Ezintsha, a sub-division of Wits RHI and division of WHC), has been a longstanding PEPFAR prime partner since 2003, and a USAID Southern Africa partner since 2000. Ezintsha is the lead partner in the OPTIMIZE programme, a global consortium that focuses on HIV treatment optimisation. Ezintsha, having extensive experience leading PrEP-type prevention technology research and implementation projects, is well placed to provide technical support to the EPIC project (https://www.ezintsha.org/).

ICPA and Pharmacy First

Pharmacists have been effectively contributing to the prevention of HIV by providing testing services in private consultation rooms at community pharmacies for a number of years. The Independent Community Pharmacy Association (ICPA), alongside the Pharmacy First group, supports the drive to train and equip pharmacists and nurses in community pharmacies across South Africa. ICPA provides support to the South African Pharmacy Council (SAPC) and SAHCS as they advocate an expanded scope of practice for pharmacists to the Director General of Health (https://icpa.co.za/).

DHCT

Digital Health Cape Town (DHCT) are a specialised health IT development company, committed to changing the healthcare landscape in South Africa by providing digital platforms. Currently, Digital Health provides digital development software services to various private sector clients, NGOs and NDoH, and developed the PrEP app and the HIV Self screening platform. For EPIC, DHCT developed an innovative and robust script-management system; a telemedicine system; a sleek appointment booking system; and a disease management system that reduces the administrative effort required by both pharmacists and clients/patients. In addition, using in-app communication and other similar accessible technology, a patient app for ease of access and control over one's own medical records has been developed (https://digitalhealth.capetown/).

Vula Mobile

Vula Mobile is a rapidly growing network of health professionals. It is an app and online based system with 10,000 users in over 1,060 health practices across South Africa. It has won the referral system tender for all 9 provinces and is used in both the public and private health sectors. The Vula Mobile application will help connect their current offerings to health services in pharmacies as well as HIV specialists. Vula Mobile contributes towards the software development and maintenance of the Pharmacy and HIV specialist portals on the Vula Mobile App. (https://www.vulamobile.com/).

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Increasing Focus on Paediatric and Adolescent HIV in South Africa

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In December 2013, the UNAIDS Programme Coordinating Board called on UNAIDS to support country- and region-led efforts to establish new targets for HIV treatment scale-up beyond 2015. A new narrative on HIV treatment and a set of aspirational targets were created to assist in ending the AIDS epidemic by 2030. This led to the adoption of the 90-90-90 targets to be achieved by 2020 and the 95-95-95 targets by 2025. This means that 90% of all people living with HIV will know their HIV status; 90% of all people with diagnosed HIV infection will receive sustained antiretroviral therapy and 90% of all people receiving antiretroviral therapy will have viral suppression (UNAIDS, 2014)[1].

The 90-90-90 targets applied equally to the paediatric HIV population (children under 15 years of age) and the adolescent HIV population (children between the age of 15 – 19 years). Although strides have been made in achieving these targets for the paediatric and adolescent HIV cohort, a significant amount of additional work needs to be done to reach the UNAIDS targets which have now increased to 95-95-95 to reach an AIDS-free generation by 2030.

As of June 2021, the paediatric cascade (children under 15 years only) in South Africa is at 80-56-65 against the target of 95-95-95 compared to the total population cascade of 93-76-89.[2] This emphasises the importance of and additional focus that is needed on the South African paediatric and adolescent HIV population. Although an adolescent cascade is not currently available due to data challenges, it is estimated that only 57% of adolescents living with HIV are on ART.[3] To assist

provinces in achieving these targets and improving the current Paediatric HIV programme, in November 2020, the South African National Department of Health (NDoH), with support from partners, introduced the Paediatric and Adolescent HIV Matrix of Interventions (MOI).

The Paediatric and Adolescent HIV Matrix of Interventions (MOI)

The objective of the Paediatric and Adolescent HIV MOI is to implement evidence-based, proven strategies focused on identification, strong linkage systems, and improved retention and viral suppression, implemented at a national, provincial, district, facility, and community levels. In addition to assisting with reaching the 95-95-95 targets, the MOI aims to provide a standard minimum package of care for HIV for the paediatric and adolescent cohorts.

Under the 1st 90, the three strategies in the MOI are Index Testing, Key Entry Point (KEP) Testing, and the utilisation of Community Healthcare Workers (CHWs) to screen and refer clients for testing. These strategies promote a *family-centred approach* to identifying children and adolescents who do not know their HIV status. Index testing leverages the family members who have tested positive for HIV and those that are already on ART. KEP Testing leverages clients that are accessing services in healthcare facilities, identifying those that do not know their HIV status and offering them HIV Testing Services (HTS). To maximise case finding for the paediatric and adolescent populations, the NDoH has advised that the following KEPs should be focused on: EPI; IMCI; Acute Care and Youth Zones. To improve the case finding reach, it is vital to work in partnership with CHWs to link clients to HTS.

As of June 2021, the paediatric cascade in South Africa is at 80-56-65 against the target of 95-95-95 compared to the total population cascade of 93-76-89.[2]

Under the 2nd 90, the three strategies in the MOI are: (a) linking positive clients to treatment using the NHLS Results for Action Datasheets (RfAs); (b) capturing positive PCR results onto TIER. Net; and (c) using CHWs to track and trace clients for ART initiation. These interventions support the linkage of HIV positive children and adolescents to care by improving facility data management systems and processes ensuring efficiency in alignment with the Universal Test and Treat strategy (UTT). Using the NHLS RfAs and the TIER. Net system assists with results being actioned faster as the lists for clients that need to be linked to care or initiated on ART are automatically generated instead of having to go through individual records. Deploying CHWs to track and trace clients for ART initiation is an extension of facility-based telephonic tracing. Physically tracking and tracing clients to their home addresses when telephonic tracing has been unsuccessful improves the chances of finding the clients and linking them to care.

Under the 3rd 90, the three interventions in the MOI are: (a) child and adolescent family care days (CAFCD); (b) community-based psychosocial support; and (c) CHW tracking and tracing of clients with missed appointments for re-engagement. The objective of these interventions is to ensure that clients are retained to care by adopting a holistic approach to improving their overall well-being resulting in improved health outcomes such as viral load suppression. CAFCDs aims to group children and adolescents to have their facility visits on specific days with their caregivers. This allows clients to receive psychosocial support in group settings such as youth care clubs (YCCs), adherence clubs, and caregivers support groups. Community-based psychosocial support assists in increasing the number of children and adolescents retained in care as community-based organisations (CBOs) offer an added layer of adherence support at the community level. Using CHWs to track and trace clients with missed appointments who need to be returned to care is an extension of

The objective of the Paediatric and Adolescent HIV MOI is to implement evidence-based, proven strategies focused on identification, strong linkage systems, and improved retention and viral suppression, implemented at a national, provincial, district, facility, and community levels.

facility-based telephonic tracing. The swift tracking and tracing of clients in their communities when they have missed their appointments increases the chances of finding these clients and re-initiating them into care.

The Role of the Healthcare Worker in the Implementation of the Paediatric and Adolescent HIV Matrix of Interventions:

For South Africa to reach the 95-95-95 targets, front-line healthcare workers will play an integral role in the implementation of the MOI. Provinces officials are currently undergoing orientation on the MOI and facility managers, or their representatives are encouraged to contact their respective district representatives in order to be a part of the creation of the implementation plan and well as implementation plan revisions. Implementing the MOI will assist in accelerating the achievement of the 95-95-95 targets due to its potential to improve identification, linkage, and retention and viral suppression in the paediatric and adolescent subpopulations.

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2. National Department of Health. HIV/AIIDS & STI Cluster, Operation Phuthuma Monthly Program Review Slides, National 90-90-90 HIV Treatment Cascade Public and Private Sector Data, June 2021.
3. National Department of Health. HIV/AIIDS & STI Cluster, Operation Phuthuma Monthly Program Review Slides, National ART Coverage Pyramid Public and Private Sector Data, March 2021.

Appendix A: Paediatric and Adolescent HIV Matrix of Interventions

Cascade		Setting	High Level Intervention	Applicable in the following age groups			
				0-4	5-9	10-14	15-19
1st 90	Case Finding	Facility (or mobile clinics)	Key Entry Point Testing	X	X	X	X
			Index Testing	X	X	X	X
		Community	Community Based Screening and Referral for Testing	X	X	X	X
2nd 90	Linkage to Care	Facility	Linkage to Care Through the Use of NHLS Results for Action Datasheets	X	X	X	X
			Digitisation of PCR Positive results in the HTS module of TIER.Net	X	-	-	-
		Facility and Community	Tracing and Recall for Initiations	X	X	X	X
3rd 90	Retention & Viral Suppression	Facility	Child, Adolescent and Family Care Day	X	X	X	X
		Facility and Community	Community Based Psychosocial Support	X	X	X	X
			Tracing and Recall of Patients with Missed Appointments for re-engagement in care	X	X	X	X

SAHCS GUIDELINES

SOUTHERN AFRICAN HIV CLINICIANS SOCIETY GENDER-AFFIRMING HEALTHCARE GUIDELINES FOR SOUTH AFRICA - EXPANDED VERSION: **OCTOBER 2021**

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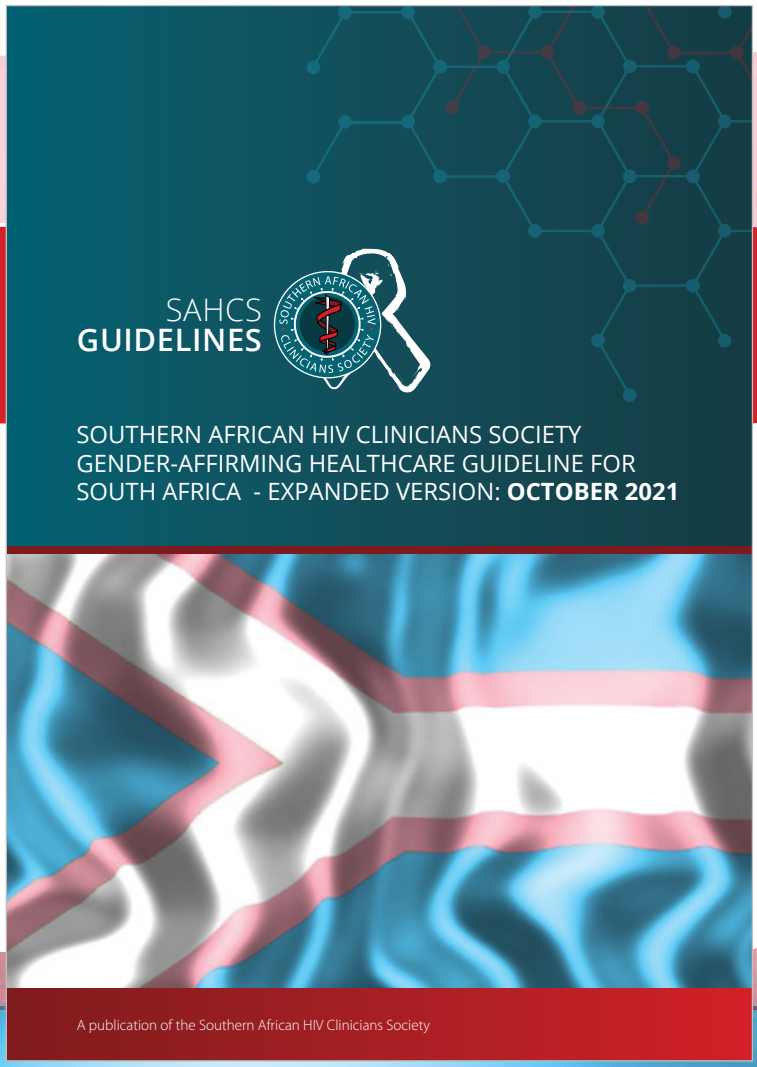
The Southern African Clinicians Society recently published their Gender-Affirming Healthcare Guideline for South Africa. This evidence-based and locally contextualised guideline is a first of its kind in South Africa covering all aspects of best-practice healthcare for our transgender and gender diverse people.

Find it here: **https://sahivsoc.org/Sub-header/Index/sahcs-guidelines.**




Endorsements:
This guideline is endorsed by:

Be True 2 Me, a trans-led organisation that provides a unified point of contact for Transgender & Gender Diverse individuals, and those interacting with, working with, educating, employing or caretaking Transgender & Gender Diverse people.

Centre for Sexualities, AIDS and Gender (CSAGD), University of Pretoria

Gender Dynamix (GDX), Africa-based public benefit organisation focusing on transgender and gender diverse communities.

Professional Association for Transgender Health South Africa (PATHSA), an interdisciplinary health professional organisation working to promote the health, wellbeing and self-actualisation of trans and gender diverse people.

Psychological Society of South Africa (PsySSA), the professional body representing psychology professionals in South Africa.

Same Love Tzaneen, a registered non-profit organisation that helps parents to understand their LGBTI children, and supports LGBTI youth.

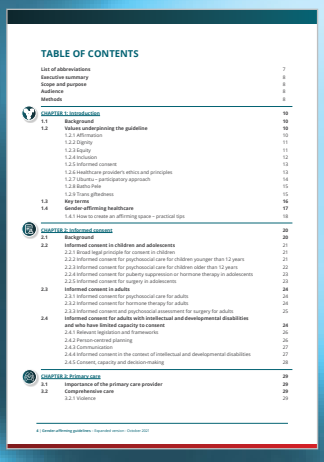
Sexuality and Gender Division (SGD) of the Psychological Society of South Africa (PsySSA), a section of PsySSA that promotes a psychological understanding of the fields of sexuality and gender diversity, including queer identities and practices.

TransHope, an NGO bringing hope to the gender diverse community.

Triangle Project, a non-profit human rights organisation offering professional services to ensure the full realisation of constitutional and human rights for lesbian, gay, bisexual, transgender, queer and intersex (LGBTQI+) persons, their partners and families.

Uthingo Network, previously The Gay & Lesbian Network, a registered non-profit organisation that aims to create a non-discriminatory, supportive and accepting society in which members of all communities are uplifted and developed, and ensuring optimum commitment and services and programmes for the upliftment and recognition of the lesbian, gay, bi-sexual, transgender and intersex (LGBTI) communities.

Wits Reproductive Health and HIV Institute (Wits RHI), a leading multi-disciplinary research institute with a focus on sexual and reproductive health, vaccines and infectious diseases, and other emerging health challenges. The Wits RHI has programmes in partnership in Gauteng, KwaZulu-Natal and Mpumalanga healthcare centres in four health districts in Gauteng, Eastern Cape and Western Cape.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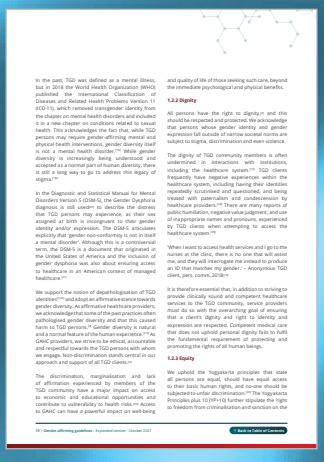
INTRODUCTION



The guidelines and other useful information and resources can be accessed via www.sahivsoc.org under the Resources section.

Implementation of Antigen Testing for SARS-CoV-2 Diagnosis

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Background

SARS-CoV-2 is a novel coronavirus that originated in Wuhan City of China in late 2019 and is the cause of coronavirus disease 2019 (COVID-19). As the spread of the virus has progressed around the world, the scientific community have gained new insights and developed strategies to overcome some of the challenges. In order to combat the COVID-19 pandemic, Tedros Adhanom Ghebreyesusm, the director-general of the World Health Organization (WHO) urged countries to test widely[1]. However, very few countries have managed to expand testing to provide appropriate population-level data to inform public health decisions on lockdown restrictions and the true burden of the disease in the population[1].

The most accurate way to diagnose an active SARS-CoV-2 (COVID-19) infection currently is through detection of viral RNA using a reverse transcription real-time polymerase chain reaction (rRT-PCR) test. While rRT-PCR tests are the most sensitive method for identifying infection, there are limitations. Firstly, they require laboratory facilities with highly trained staff. Secondly, during epidemic waves when there is a high demand for testing, testing is often limited to symptomatic and/or hospitalised patients. Finally, the turnaround time for laboratory-based rRT-PCR results is often greater than 24 hours, limiting the ability to effectively isolate, treat, and contact trace rapidly. Testing provides the first line of defence against COVID-19 and enables early detection and isolation

of cases therefore slowing transmission, providing targeted care to those affected, and protecting the health system[2].

Detection of viral proteins through antigen-based rapid diagnostic tests (Ag-RDTs) offers an alternative option for diagnosing active SARS-CoV-2 infection that may allow for faster (<30 min), simpler, less expensive, and more widespread testing. Antigen testing may help to ease some of the bottlenecks crassociated with rRT-PCR testing[1]. Use of Ag-RDTs is recommended in situations where rRT-PCR is not readily available or feasible, or where long turn-around times delay clinical or public health action.

Recommended use of SARS-CoV-2 antigen tests

The primary goal of diagnostics is to inform clinical management and reduce transmission. Antigen tests play an important role as they can provide real-time information for individual-level action (triage/isolation and patient management) and to inform community level responses (identification of contacts and monitoring the number of cases). Furthermore, antigen tests allow for decentralisation of SARS-CoV-2 testing thus increasing testing coverage and accessibility providing rapid results and adaptive policy response at a local/ regional level.

Antigen tests can be used on pre-symptomatic (1-3 days before symptom onset) and early symptomatic phases of illness when individuals are likely to have high viral loads and be most infectious. As per the WHO recommended minimum performance requirements, antigen tests with ≥ 97% specificity and ≥ 80% sensitivity may be used for diagnosing infection with SARS-CoV-2, where nucleic acid amplification tests (rRT-PCR) are unavailable or have prolonged turnaround times[3]. In some circumstances, where an antigen test result is inconsistent with clinical signs and symptoms, confirmation of the antigen test result with a rRT-PCR test is recommended.

Table 1: Evaluation framework for SARS-CoV-2 testing

Testing Method	Strengths	Weaknesses
SARS-CoV-2 rRT-PCR test	· 'Gold standard' test · High **sensitivity** · High **specificity**	· Longer turnaround times may limit the ability to quickly isolate, treat and contact trace · Requires laboratory facilities and may therefore limit access to testing · Higher cost · Requires laboratory facilities and may therefore limit access to testing
SARS-CoV-2 Ag-RDT	· **Faster turnaround** times · **Lower cost** · **Greater access to testing**, particularly in areas further away from PCR labs · Allows for **decentralisation of testing** to lower-level health facilities · **Faster identification** of cases and contacts for quarantine/isolation · Simple to perform	· Smaller window of detection · Less sensitive than PCR and so small numbers of false-negative results can occur · May require confirmatory testing under certain circumstances, may need to be followed by a rRT-PCR test

The most accurate way to diagnose an active SARS-CoV-2 (COVID-19) infection currently is through detection of viral RNA using a reverse transcription real-time polymerase chain reaction (rRT-PCR) test.

Recommended use of antigen tests[1,3]

Symptomatic patients

In areas where there is community spread or a suspected outbreak, testing all symptomatic individuals as well as asymptomatic high-risk individuals is recommended. This scenario is expected to be a high prevalence setting and thus results should be interpreted as described below (positive result should be managed as a case and negative result should be confirmed by PCR). Ag-RDTs in this scenario would allow healthcare workers to quickly identify cases and manage them accordingly.

In areas where either community spread has not been detected or there is an unconfirmed outbreak, testing is recommended for all symptomatic individuals presenting at hospitals and health facilities with the objective of rapidly detecting new case clusters. This use case is expected to be a low prevalence setting and results should be interpreted as described below (negative result can be assumed to be

accurate and positive result should be confirmed by PCR).

Contacts of confirmed cases

Close contacts of confirmed cases are at higher risk of infection and testing contacts (symptomatic and asymptomatic) is recommended. Contacts should be tested at a minimum of 5 days post contact with a confirmed case, as testing too early increases the chance of false-negative results. This use case is expected to be a high prevalence setting and should be interpreted as described below (positive result should be managed as a case and negative result should be confirmed by PCR).

Groups at high risk of infection and transmission

Healthcare workers and workers in care homes are at greater risk of being infected and transmitting SARS-CoV-2 to vulnerable individuals, and therefore use of Ag-RDTs is recommended. This scenario is expected to be a high prevalence setting and should be interpreted as described below (positive result should be managed as a case and negative result should be confirmed by PCR).

Asymptomatic individuals

Ag-RDTs may be used in settings such as schools, workplaces, mass gatherings and travellers to prevent transmission. However, the limitations of Ag-RDTs should be considered. This scenario is expected to be a low prevalence setting and should be interpreted as described below (negative result can be assumed to be accurate and positive result should be confirmed by PCR).

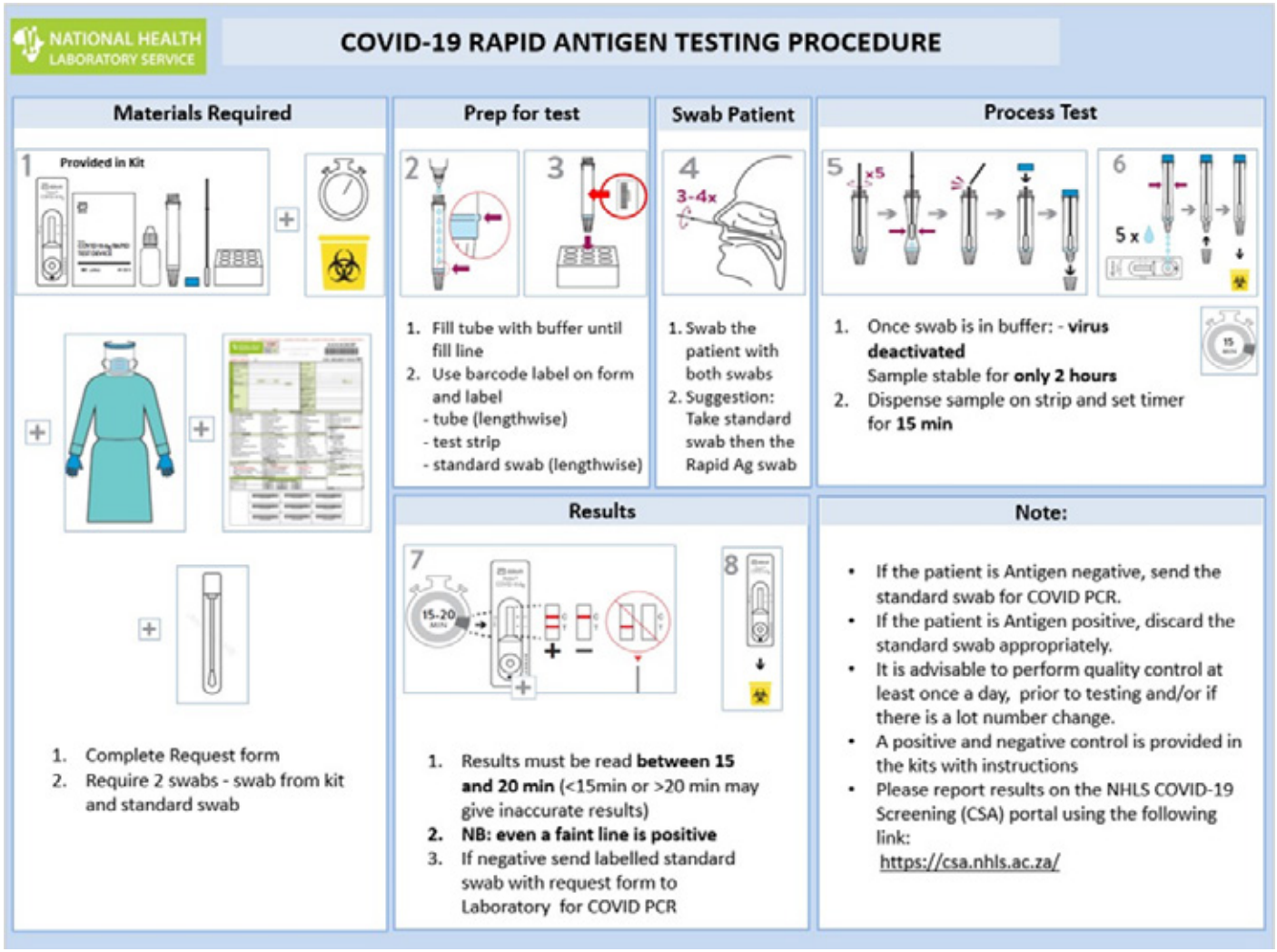
Types of SARS-CoV-2 antigen tests

There are multiple types of antigen point of care (POC) tests available for SARS-CoV-2 diagnosis:

- Simple, manually-run rapid lateral flow tests without any device or instrument (also known as visual rapid diagnostic tests (RDTs)) – e.g., Abbott Panbio and SD BioSensor
- Simple, manually-run RDTs read with a reader – e.g., Becton Dickinson (BD) Veritor, Quidel Sofia
- Small, simple POC instrument rapid lateral flow tests that are both run and read by the device - e.g., LumiraDx

A number of these POC tests show acceptable accuracy and clinical performance when used in the correct cohorts. The South African Health

Figure 1: Procedure for performing the Abbott Panbio COVID-19 rapid antigen test.



Regulatory Authority (SAHPRA) has approved several tests using a reliance model as well as in-country validation. These assays are constantly being reviewed and an updated list is available on their website. Figure 1 outlines the procedure for performing the Abbott Panbio rapid antigen test.

Interpretation of results

Proper interpretation of antigen results is important for both clinical management of patients as well as for assessing the SARS-CoV-2 epidemic. The accuracy of results depends

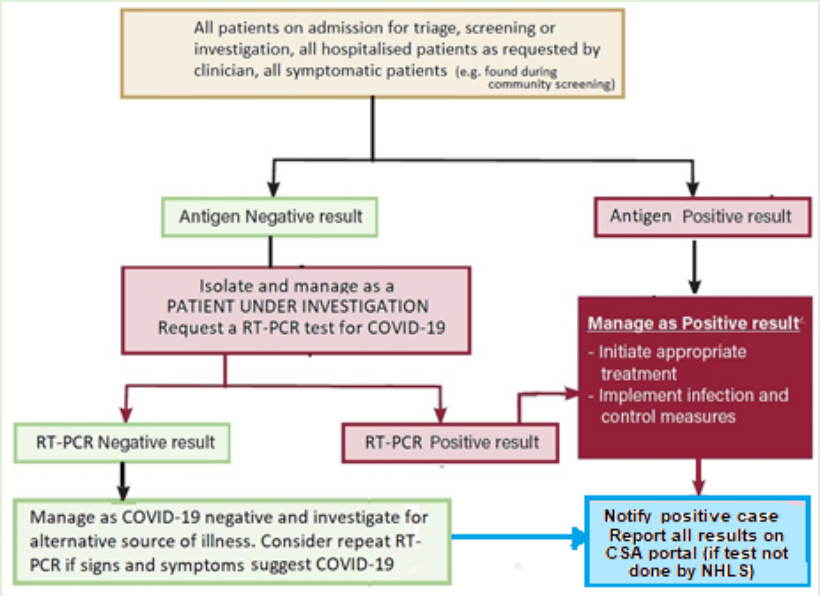
Figure 2 illustrates how to use, interpret and report an antigen test.

Step 1

Does the person have symptoms compatible with COVID-19?

If yes

use flow-chart to the right to interpret result

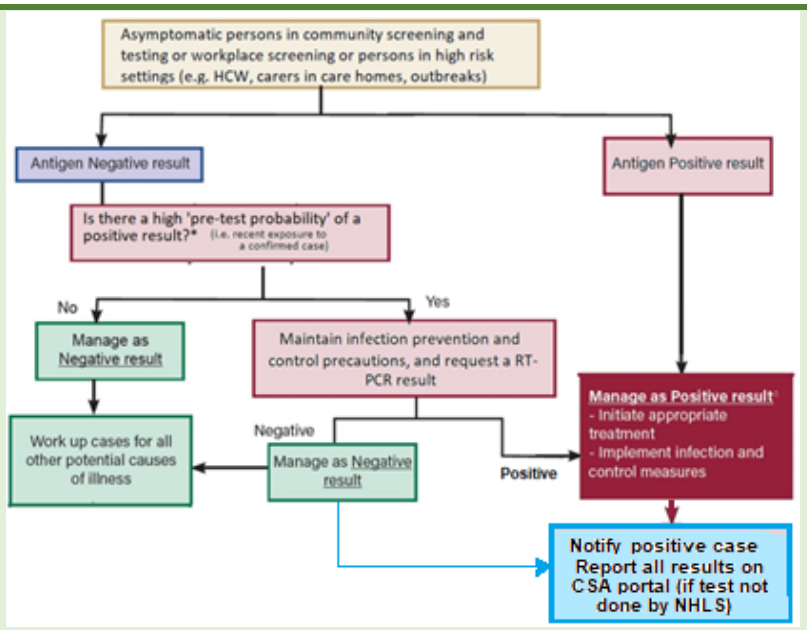


Step 2

Does the person have symptoms compatible with COVID-19?

If no

Use flow-chart to the right to interpret result



Step 3

Report the result

1. **Report ALL results** (positive and negative) at https://csa.nhls.ac.za/ unless the antigen test was done by the NHLS
2. Positive results should be reported by the attending clinicians to the NICD as part of **Notifiable Medical Conditions surveillance** (NMC-SS). Details may be found on the NICD website at https://www.nicd.ac.za/nmc-overview/overview/

largely on the conditions under which the results are interpreted. Understanding these conditions can minimise misunderstanding of false positive or false negative results.

High prevalence settings (symptomatic patients in areas with community spread or a suspected outbreak as well as close contacts of confirmed cases and healthcare workers)

The positive predictive value of an antigen test is the highest when SARS-CoV-2 prevalence is high in the population being tested. In this setting a positive test can be interpreted as SARS-CoV-2 infection and appropriate treatment measures should be followed. The negative predictive value of an antigen test is lowest when prevalence is high and false negative results are more likely to occur. In patients with clinical and/or epidemiological indications for COVID-19, follow-on rRT-PCR is recommended following a negative antigen test.

Low prevalence settings (asymptomatic patients in areas with no community spread or an unconfirmed outbreak as well workplace or ports of entry screening)

The positive predictive value of an antigen test is lowest when SARS-CoV-2 prevalence is low in the population being tested. In this population, false positive results are more likely to occur and thus a positive test would need to be interpreted with clinical signs/symptoms and epidemiological link to an outbreak/confirmed case. However, if confirmation of infection is required for isolation, travel or work purposes, then additional testing by rRT-PCR is recommended. A negative result implies that the infection is unlikely if there are no clinical signs/symptoms or epidemiological connection to a confirmed case.

Reporting of results

SARS-CoV-2 is a category 1 notifiable medical condition that requires reporting to the Department of Health within 24 hours of diagnosis by a healthcare worker, private or public health laboratory.

All SARS-CoV-2 antigen test results (both positive and negative) are required to be reported either through the NHLS rapid test reporting portal (https://csa.nhls.ac.za/) or, by arrangement with the NICD, directly through the laboratory information system (LIS). Failure to report the antigen test result, both positive and negative, will lead to decreased reporting and limit outbreak surveillance, and epidemic monitoring and response.

Conclusion

Antigen testing for SARS-CoV-2 is useful in certain settings, specifically when rRT-PCR tests are not readily available or have prolonged turn-around times. Antigen testing can allow for quick and efficient patient management; however, results need to be carefully interpreted and are dependent on the prevalence in the selected settings. It is important to report all results to ensure accurate surveillance of COVID-19 and ensure appropriate responses to the pandemic.

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The Southern African HIV Clinicians Society (SAHCS) worked with key HIV experts to develop an Advanced HIV Management Course for nurses. The course is available on an easy-to-use e-learning platform that will work on most electronic devices. The course includes the most up- to-date information on patient care and advanced clinical care.

WHO SHOULD ENROL?

Nurses who have already completed NIMART (Nurse-Initiated Management of ART). Please note that if you did the NIMART course but were not certified, you can still take the NIMART exam online to join the Advanced HIV Management course. If you still need to submit a Portfolio of Evidence (PoE), you can access updated NIMART OSCEs and live case studies to complete in your own time and then submit your PoE.

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The South African Nurse's Role Towards the Elimination of Cervical Cancer

Sister Sibongile Ramotshela, RN: *Director- Afia Tai Care*
Masego Kotane, MSc: Associate, *Cancer Team- Clinton Health Access Initiative*
Tabitha Ramotwala, MPH: Analyst, *Cancer Team - Clinton Health Access Initiative*

New WHO recommendations for screening and treatment of cervical precancer: General Population vs. Women Living with HIV

Cervical cancer is among the cancers with effective tools for both primary and secondary prevention yet it is the fourth most common cause of cancer death in women[1]. It is estimated to have resulted in approximately 570 000 diagnosed cases and 311 000 deaths in 2018 worldwide[2]. In South Africa, this translates to 12 983 annually diagnosed cases and 5 595 deaths.[3]

On the 6th of July 2021, the World Health Organization (WHO) launched new recommendations for screening and treatment of cervical pre-cancer, which are detailed in the "WHO guideline for screening and treatment of cervical pre-cancer lesions for cervical cancer prevention, 2nd Edition."[4] This was a follow up to the global launch of the cervical cancer 90:70:90 elimination strategy on 17 November 2020, which challenges countries to these vaccination, screening and treatment targets by 2030 in an effort to end the preventable suffering and death caused by cervical cancer[5].

While the guidelines outlined in the initial publication are general, the new recommendations make an evidence-based case for the use of HPV-DNA testing as a primary screening test. They also recognise the relationship between human papillomavirus (HPV) and HIVⅲ[3], citing that women living with HIV (WLHIV) have a six times higher risk of susceptibility to cervical cancer compared to the general population.[6] WLHIV also have a higher likelihood of having persistent HPV infections with a faster progression to pre-cancer and cancer. In consideration of these findings, the revisions in the guidelines include differentiated recommendations for screening and treatment of cervical cancer for the general population and for WLHIV as summarised in Table 1.

Table 1: WHO Summary of differentiated cervical pre-cancer screening and treatment recommendations for the general population versus women living with HIV

Screening and Treatment Recommendations	General Population	Women Living with HIV
1. Primary and triage screening tests	HPV DNA testing instead of VIA or cytology and either partial genotyping, colposcopy, cytology or VIA as the triage test.	Same as general population.
2. Screening and treatment approaches	Screen and treat, **OR** screen triage and treat.	**Only** screen, triage and treat.
3. Screening and Treatment methods	HPV DNA samples should ideally be taken by healthcare workers or be self-collected samples	Same as general population
4. Screening age of initiation	30 years old	25 years old
5. Screening intervals	Every 5-10 years	Every 3-5 years
Screening age of cessation	After age 50, following two consecutive negative screening tests NB! Prioritise 50- to 65 -year-old women who have never been screened before.	Same as general population

Implications for Nurses in the South African context

The National Department of Health (NDoH) commissioned primary and triage screening and treatment guidelines for low and high risk (immunocompromised) populations in South Africa, which are outlined as algorithms in the Cervical Cancer and Prevention Policy as presented in Diagram 1.

Diagram 1: NDoH Cervical Cancer Prevention and Control Policy screening and treatment algorithms for low and high risk populations[7]

Figure 4: Low risk group: Screening, diagnosis and treatment (cytology) (adapted from WHO)

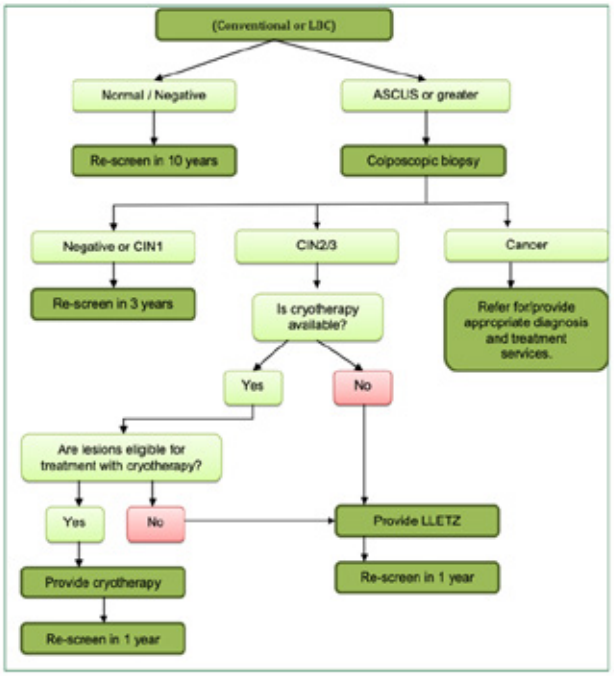
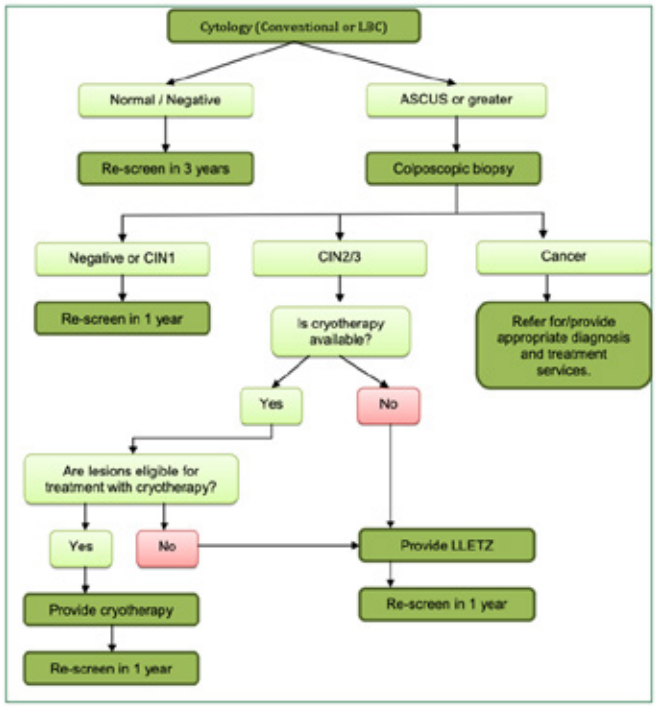


Figure 5: High risk group: Screening, diagnosis and treatment (cytology) (WHO)



However, in practice, the most common operationalisation of these algorithms in order to acheive better patient results management is as pictured in Diagram 2.

Nurses are encouraged to gain a thorough understanding of the presented algorithms, and to take advantage of available training to ensure competency with the proper procedures for performing adequate Pap smears, and documenting and handling the sample. While South Africa works towards introducing HPV DNA testing as the primary screening tool, it is critical to improve current Pap smear screening adequacy rates as Pap smears remain the most widespread screening tool in our fight against cervical cancer.

One key facet of following proper procedure for Pap smear collection is accurately completing the Cytology N2 for Pap smear samples form pictured in Diagram 3.

Equally as important for nurses to remember, are the correct steps for performing a Pap smear to ensure an adequate sample is taken, as outlined in Diagram 4.

Finally, nurses are reminded that the closing of the vial containing the specimen determines whether the sample is viable for further testing and should therefore be conducted with the utmost care as shown in Diagram 5.

As custodians of the South African cervical cancer screening landscape, it cannot be emphasised enough that adequate screening alone without matching adequate treatment rates defeat the purpose of successfully preventing cervical cancer. As such, doctors should be adequately equipped with the necessary tools to perform a colposcopy i.e. a colposcope and biopsy forceps for visualisation of the cervix and punch biopsy procedures; as well as equipment for LLETZ procedures and supporting commodites.

Diagram 2: Cervical pre-cancer screening and treatment algorithms commonly followed by nurses in practice for better patient results management

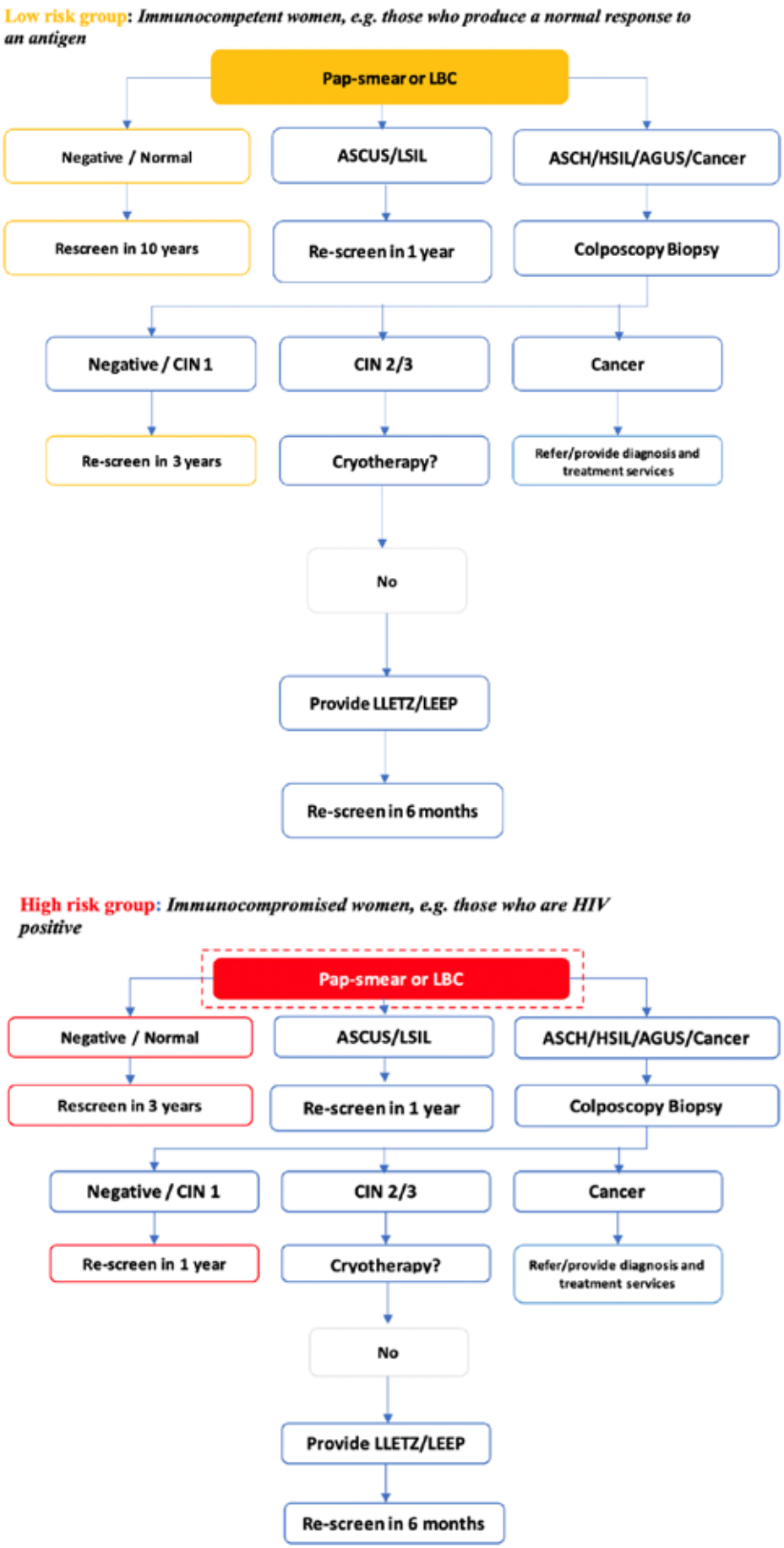


Diagram 3: Examples of empty and complete Cytology N2 Forms[8]

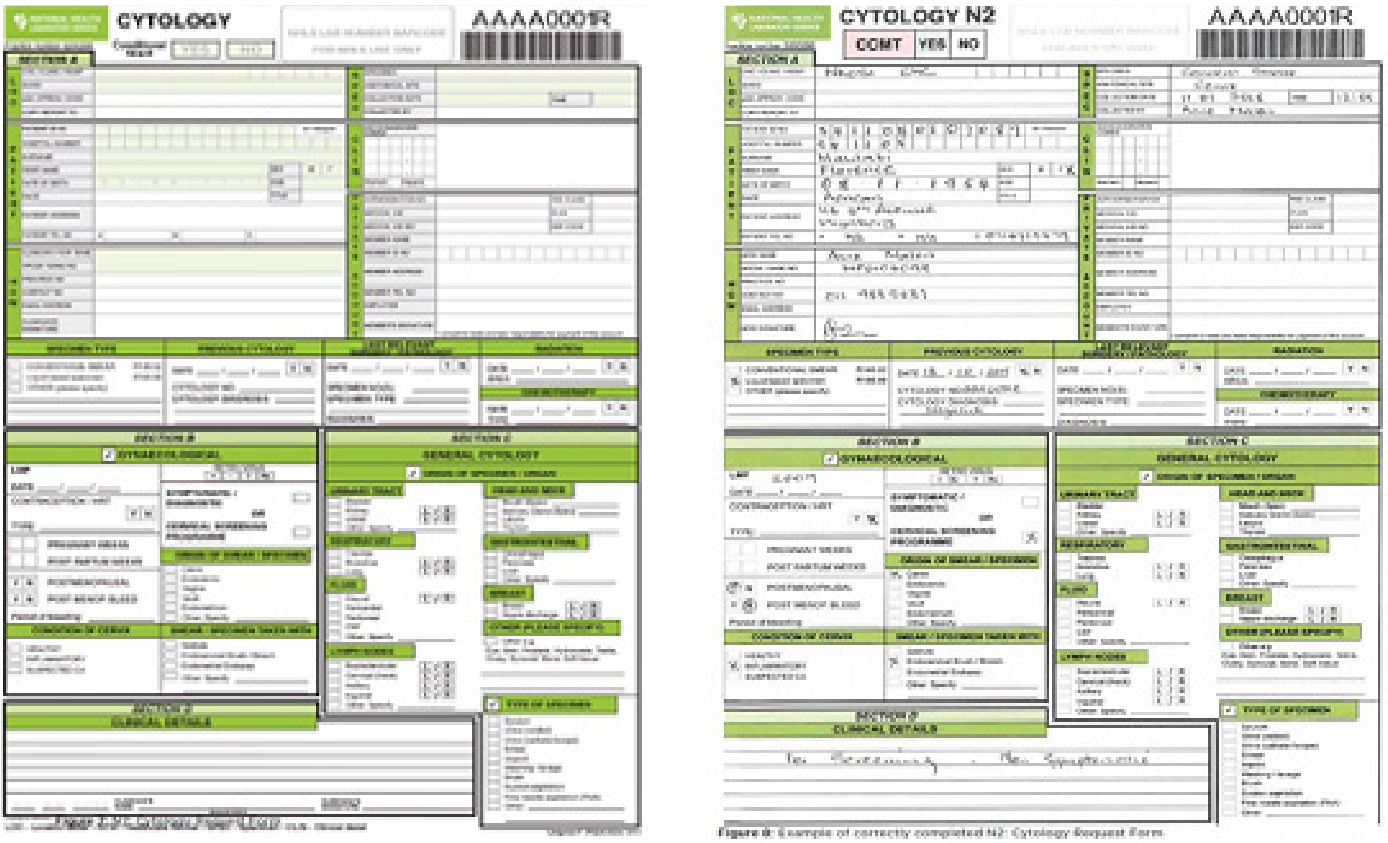
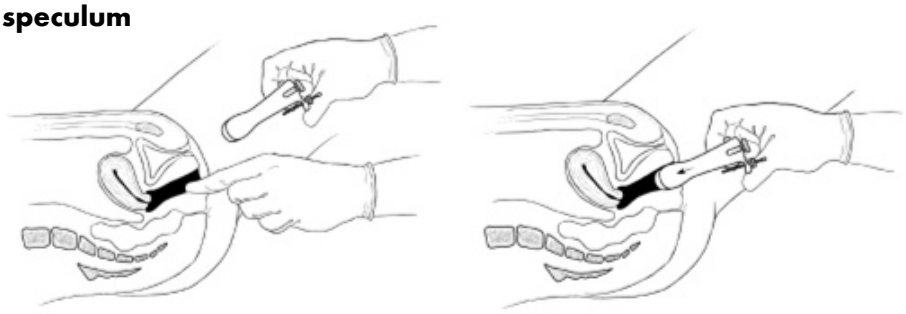


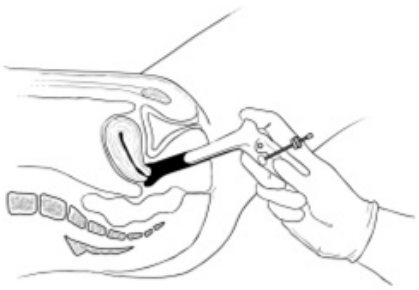
Diagram 4: Infographic outlining steps for performing a Pap smear[9]

Step 1: Insert the speculum

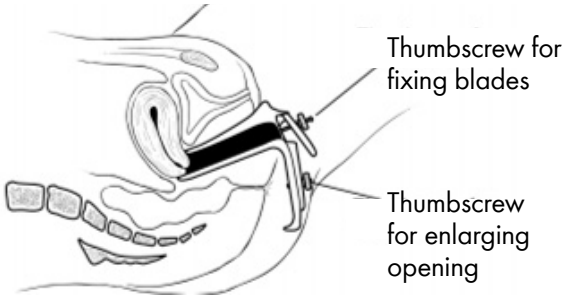


- As you advance the speculum, gently rotate the blades into a horizontal position with the handle down.
- Be sure the labia do not fold inward while advancing the speculum.
- Insert it fully or until the resistance is felt.

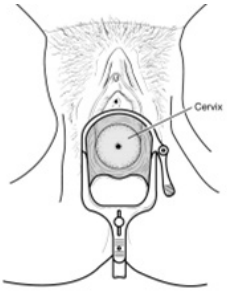
Step 2: Rotate the speculum



Step 3: Open and visualise the cervix



Step 4: Keep the speculum in place with blades open



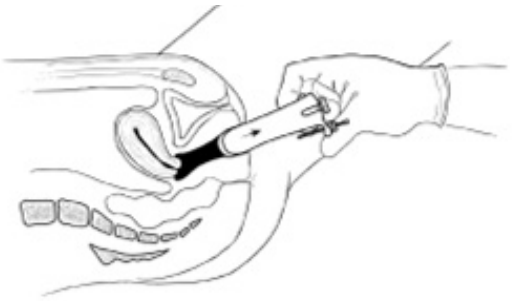
Obtain a sample from the cervix with the brush:

- Insert the central bristles of the brush into the endocervical canal deep enough to allow the shorter bristles to fully contact the ectocervix.
- For an LBC or HPV DNA Test sample: Apply firm pressure and rotate cervi-BRUSH 360 degrees (TWO times in a clockwise direction) if using the BROOM rotate it 360 degrees (FIVE times in a clockwise direction).

Rinse the cervi-broom/brush immediately into the LBC solution vial by pushing it into the bottom of the vial 10 times, forcing the bristles apart and as a final step, swirl the broom/brush vigorously to further release material.

- Visually inspect the cervi-brush/broom to ensure that no material remains attached and discard the collection device (into the biohazard waste box).
- In the patients' chart write that a LBC/HPV DNA Testing sample was taken.
- Tell the patient when to come back.
- Store collection tubes at 15 – 30 degrees and transport to the laboratory.

Step 5: Remove the speculum



- As the speculum is withdrawn, the blades tend to close.
- To prevent the blades from closing and pinching the vaginal mucosa or labia, keep your thumb on the lever of the speculum.
- To avoid causing discomfort and putting pressure on the urethra, maintain slight downward pressure on the speculum as you remove it.
- After gently removing the speculum, place it in a 0.5% chlorine solution for 10 minutes for decontamination.

Diagram 5: Steps for How to close the vial[10]

1. The black torque line on the cap needs to pass the black torque line on the vial (to ensure there is no leakage of the sample).
2. Do not over-tighten as it will break the sensors of the processing machine in the lab.
3. The bar code should be placed horizontally, around the container.

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*Instructions have been copied as seen in the PHC Handbook

Excessive Weight Gain on Modern Antiretroviral Therapy– An HIV-Physician's Viewpoint

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Introduction

Obesity is an escalating global public health concern, affecting high-income and low-income countries alike and contributing to considerable morbidity and premature death, through an increased risk of cardiovascular disease, diabetes, chronic kidney disease, and some cancers[1-3]. For people living with HIV (PLWH), excessive weight gain and obesity on antiretroviral therapy (ART) have been well-described across a range of recent randomised trials and observational cohorts, though the underlying mechanism is unknown[4]. Rise in weight gain tends to be larger for patients who are underweight and immunocompromised at treatment initiation, taking integrase inhibitors, especially when in combination with tenofovir alafenamide (TAF)[5-8]. Black race, female sex and ageing are also risk factors for excessive weight gain[4,9]. Possible cited reasons include a 'return to health effect', better gastrointestinal tolerability to newer antiretroviral drugs or inflammation-mediated weight gain caused by HIV itself[8,10,11]. Regardless of the cause, weight gain on ART is serious, particularly in the context of a burgeoning obesity epidemic in the general population.

The World Health Organization (WHO) recommends the second generation integrase inhibitor, dolutegravir, as part of preferred first-line HIV treatment and as a switch option, due to its superior

efficacy and improved tolerability compared to other regimens[12]. Large-scale transition to dolutegravir-based ART is taking place in many low- and middle-income countries (LMICs), despite initial delays due to safety concerns of its use in the peripartum period[13,14]. In the South African ADVANCE trial, sustained weight gain after 96 weeks of treatment was considerable in the dolutegravir-containing arms, especially in women also receiving TAF. Additionally, increases in visceral fat, associated with various cardio-metabolic risk factors were also reported, again more in women as compared to men[15]. These findings are particularly concerning given the disproportionate burden of HIV and obesity in the black and female populations in the sub-Saharan Africa.

Importantly, the real-world clinical significance of excess weight gain and treatment-emergent obesity on the metabolic and cardiovascular risk among PLWH still needs to be defined. Also, there is currently no clear guidance on stopping/switch rules from regulatory authorities. For providers, these findings raise key questions on how to manage excess weight gain for patients on dolutegravir-based ART, in a country such as South Africa, where both HIV and obesity are at epidemic levels.

Clinical implications of obesity and ART

Progressive weight gain on ART is associated with a myriad of cardiovascular and metabolic diseases and can also be associated with poor body image and impacts social and sexual functioning, and other activities of daily living. A body-mass index (BMI) higher than 30 kg/m^2 can lead to type 2 diabetes, myocardial infarction, hypertension, increased risk of neurodegenerative diseases such as Alzheimer's and, in women, excess weight gain that can cause gestational diabetes, eclampsia, and thrombo-embolic events dangerous for both the pregnant woman and her child[1,4,16,17].
The impact of the obesity epidemic and the true extent of its consequences on healthcare systems and economies in LMICs, including South Africa is yet to be quantified. However, there is increasing recognition that non-communicable diseases impose large economic costs and threatens to inundate health care resources by increasing the incidence of diabetes, heart disease, hypertension, and certain cancers. For example, the national direct costs of diabetes in South Africa were estimated at >US$4.5 billion per annum and indirect costs associated with loss of income, disability and premature death innumerable[18,19]. Additionally, the looming additional burden of non-communicable disease as an indirect result of ART-associated weight gain may be beyond the coping capacity of our already strained healthcare system.

As clinicians using these modern ART regimens, we are extremely concerned continuing to watch some of our patients gain excessive amounts of weight on dolutegravir-based ART. Many questions arise: What is the underlying mechanism of weight gain in our cohort and why are black African women more affected by this weight gain than others? What is the clinical significance and long-term impact of this weight gain? Do we switch patients with obesity to other treatment options? And if so, to what and when? What do we do for those gaining excessive amounts of weight, but are otherwise well and virally suppressed? What if they are reluctant to switch to efavirenz-based ART? At what point does patient autonomy yield to doing harm? How do we to be motivate our patients to lose weight, while respecting their dignity and autonomy?

What we do know is excessive weight is complex, likely multifactorial and not exclusive to dolutegravir-based ART use. Some PLWH want to continue dolutegravir-based ART because of its proven benefits. In a large community consultation of treatment activists from 21 African countries, PLWH voted unanimously for dolutegravir-based ART to remain the preferred first-line regimen

> Weight gain on ART is serious, particularly in the context of a burgeoning obesity epidemic in the general population.

and be accessible to all, despite emerging data on dolutegravir-associated weight gain and hyperglycaemia[20]. PLWH may associate being underweight as a proxy for HIV-infection or AIDS and being overweight may be viewed as being affluent and healthy - a perceived barrier to weight loss[21-23].

Recommendations

People living with HIV face external and internalised stigma daily and the added anxiety caused by safety concerns, complicate the provider-patient relationship and may hinder adherence and impact negatively on clinical outcomes. Healthcare worker contribution to this stigma, through inappropriate blaming and oversimplified recommendations around weight loss interventions that have been shown to not work in most people, needs to be acknowledged[24]. BMI is only one of several factors to consider when assessing health, and it is possible to be healthy and happy at higher BMIs, if attention is paid to other, more remedial factors.

Clinical management of excessive weight gain is often passively managed by healthcare workers, as seen with fat redistribution syndromes such as lipodystrophy and lipoatrophy[25,26], and requires a pro-active careful monitoring and combination of strategies appropriate to LMICs to prevent and occasionally reverse weight gain. We call for clearer guidance to inform clinical management for clinicians such as us in LMICs where the issue of weight gain is most prevalent and alternatives to dolutegravir-based ART are limited.

Table 1: Recommendations for weight gain

1. Integrating care for NCD screening, including use of validated scales that go beyond BMI (such as the Edmonton Obesity Staging System) that guide more evidence approaches to obesity and management into routine HIV care.
2. Counselling patients at all visits on excess weight gain and associated comorbidities. Supporting a holistic, culturally appropriate approach to weight loss management, weight loss support groups, and the use of evidence-based weight loss strategies.
3. Regular measurements of blood pressure in all patients, waist circumference, with annual fasting glucose, lipids, cholesterol, and glycated haemoglobin (HBA1c) for those experiencing weight gain as appropriate and as resources permit
4. Design future trials to include comparisons of weight changes in diverse populations, including pregnant women, Black patients, and adolescents.
5. Ongoing programmatic surveillance of weight-associated adverse events on ART, to inform clinical management and future policy making decisions.

Treatment emergent obesity raises complex cultural, ethical, and regulatory challenges for future clinical trials. As physicians we advocate that suboptimal management is no longer acceptable in our current obesity climate. Ongoing and future studies to further characterise the relationship between weight gain during HIV treatment and risk of metabolic disease mortality, as well as real-world pharmacovigilance of adverse events including treatment emergent obesity should be included as new drugs are introduced.

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Community-based HIV Testing and Services (HTS) Counsellors, Sindiswa Mlambo, Phumizile Zwane, and Busi Segaope, promoting HIV testing, service, and education during a community-based mobile campaign in Gauteng.

Gaining and sustaining trust: A pathway to reaching 95-95-95 targets in South Africa

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Recommendations from HIV testing and service counsellors in the community

South Africa faces the largest burden of HIV globally with approximately 7.8 million people living with HIV[1]. Diseases, such as HIV, TB and malaria, are reliant of large-scale prevention and treatment programmes. Community-based HIV Testing and Service (HTS) Counsellors, frequently considered under the umbrella of Community Healthcare Workers (CHWs)[2-4], play a substantial role in South Africa's health system. Since the 1930s, CHWs broadly have supported health in communities[5]. With the onset of the HIV epidemic in the late 1990s, community-based HTS counsellors emerged as a new cadre of CHWs[2].

Today it is estimated that over 70,000 lay health workers, representing CHWs and community-based HTS counsellors, have supported community-based health efforts across South Africa[6]. The National HIV Testing Service Policy describes community based HTS counsellors as multifaceted, strategic actors in reaching South Africa's most vulnerable with HIV related health services including HIV testing and linkage to care[7]. South Africa's health workforce is notoriously unevenly distributed across rural and urban areas and public and private sectors (8) thus positioning HTS counsellors in a strategic space to reach those most vulnerable and thus further progress towards 95-95-95 targets*.

While the country's antiretroviral therapy (ART) programme is the largest in the world, with over 5 million adults

receiving treatment in 2020, the most recent UNAIDS Global AIDS Update highlights a 10-year steady decline in the number of people living with HIV on treatment[9,10]. As cautioned in the report, 'Efforts to support people on treatment to maintain treatment and achieve durable viral suppression are critical to improving health outcomes, maximizing the preventive benefits of treatment and preventing the re-emergence of drug-resistant strains of HIV'[p.87, 10]. A decline in retention to treatment poses a critical threat towards reaching the second 95 in South Africa. One reason for this steady decline in retention to treatment is the lack of trust between clients and facility-based healthcare workers[11-13].

Trust in HIV Testing and Service

Trust between health care workers and clients is consistently associated with improved access and uptake of health services[14,15], improved patient satisfaction [3,16], increased adherence and retention to care[17], and even improved health outcomes[18]. Trust in health care has also been seen as advantageous within the space of HIV-related health services[11,12,19].

In a context of continued HIV stigma and discrimination[20,21], trust is particularly vital to a client's perception and experiences of continued quality, dignified care. Trust between healthcare workers and clients can impact whether a client will test for HIV, how they will react to their status, and whether they will continue accessing care.

Although trust appears as unequivocally beneficial to health, health system constraints such as high patient volumes, inadequate staffing, and insufficient resources can act as structural barriers to promoting a trusting relationship between a client and a health care worker[23]. For the purposes of this article, the authors (some of whom are HTS counsellors), explored issues around trust and HTS counselling. As noted by the authors, having the additional time and energy to foster trust can be just 'a luxury add on' when many South African facility-based health workers contend with an overburdened, under resourced and understaffed health system. In acknowledging these structural barriers, CHAPS' experienced community-based HTS counsellors and programme managers offered several recommendations for how facility- based health care workers can promote trust with their clients to achieve greater progress towards 95-95-95 goals in South Africa. The recommendations were a result of five informal, opened ended interviews with CHAPS HTS counsellors and programme managers. Based on analysis and discussion about these interview findings, the authors identified five key recommendations for gaining trust within the HIV care cascade model.

Definition of trust

"to believe that someone or something is reliable, good, honest, effective, ect.: to have confidence in (someone or something)".[22]

Top five recommendations for gaining and sustaining trust

1. Remember the courage it takes to get tested for HIV
2. Introduce yourself and begin a casual conversation
3. Assure your clients of the confidentiality of their HIV status
4. Do not underestimate the influence of pre-test counselling
5. Recognize the obstacles a client faces in adhering to treatment

It takes courage to get tested for HIV

It takes courage to test for HIV. Clients can delay testing for HIV or seeking care for fear of nondignfied communication and stigmatization[24,25]. Drawing on our extensive experience within HIV testing, we highlight that supportive, encouraging, welcoming and honest communication with clients can substantially assist in building trust between health care workers and clients. It is important to recognise that testing for HIV is a challenging and potentially life altering decision. Adopting a humanising approach to HIV testing and care through open communication about the client's concerns can significantly bridge the gap between clients and health-care workers.

Always Remember Introductions

Introductions are an essential part of forming good first impressions, establishing credibility, putting clients at ease, and establishing patient-client trust[26]. Building rapport through casual conversation prior to clinical procedures creates a psychologically safe environment. HIV prevention and treatment clinical work involves asking intimate questions about a client's health, sexual history, and body. Through establishing a relationship through conversation, we can improve the quality of health outcomes through making the client feel seen and establishing pathways for open communication[27].

Maintain Confidentiality

Concerns around confidentiality adversely impact trust between clients and health care providers. HIV status confidentiality is a well described concern among both individuals who seek community-based and health facility testing and treatment services[25,28,29]. Even a seemingly harmless instruction such as informing a client to enter a designated room to receive ART could compromise a client's

*To reach epidemic control and ends HIV by 2030, UNAIDS has set target for achieving 95% of all individuals living with HIV will know their HIV status, 95% of those who know their status will be on ART, and 95% of those on treatment will be virally suppressed. Collectively these targets are refereed to globally and in South Africa as 95-95-95 targets.

view of confidentiality. To avoid threats to a client's privacy, assure them of their status confidentiality during every consultation with a client. Additionally, inform clients that there might be times when other health care workers need to be informed of their status in order to provide further care. Open, transparent communication can foster dialogue that allays client's apprehension.

The Importance of Pre-test Counselling

Pre-test counselling is essential and provides an opportunity for health care workers to educate the client on HIV, outline treatment options, acknowledge and debunk HIV-related myths, and remind the client that HIV is a treatable condition. Myths surrounding ART side effects and drug efficacy can delay initiation to treatment and hinder adherence[30,31]. By offering time to the client to debunk these myths, dispel misconceptions, and inform them of scientifically proven treatment options, trust between the health care worker and client can grow. Additionally, the likelihood of retention in care is strengthened[32, 33].

Recognise Client Obstacles

HIV services within South Africa face challenges related to access and retention due to highly mobile populations, socioeconomic constraints, including lack of money for transportation fare to the health facility, lack of social support, HIV stigma, adverse effects of medication, and medication fatigue[33]. Some of the barriers faced by clients could be resolved through support of social grants or social workers, or additional counselling; however, to first identify these barriers to care, open communication between a health care provider and clients is essential. Open, and non-judgemental communication about adherence will foster trust, open spaces for improving care and build relationships for collaborative solutions in healthcare.

Conclusion

Trust is vital to the health system, and it cannot be overlooked within the context of the HIV care cascade. For South Africa to reach 95-95-95 targets and reverse the current downward tread of care retention, one solution could lie in fostering trust between a health care worker and their client.

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Clinical Considerations in HIV-Associated Cryptococcal Meningitis

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Background

Cryptococcal meningitis (CM) is caused by disseminated infection of the fungal organism, *Cryptococcus neoformans*. *C. neoformans* is spread in bird droppings, and when these dry out, the organism floats away and is inhaled. Most people with a functional immune system can contain and eliminate the infection; however, it can invade through the lung tissue and into the blood, in cases of severe immune suppression, such as HIV with a very low CD4 count.

Despite ever-improving access to HIV diagnosis and treatment, up to half of people newly-diagnosed with HIV infection already have advanced HIV disease (AHD)[1]. As such, many people are still being diagnosed with, and dying of, opportunistic infections (OIs). Approximately 180 000 people die worldwide from CM every year and 75% of these deaths occur in Sub-Saharan Africa[2-4]. South Africa is thought to have the highest incidence of CM in the world with over 25 000 cases per year[4].

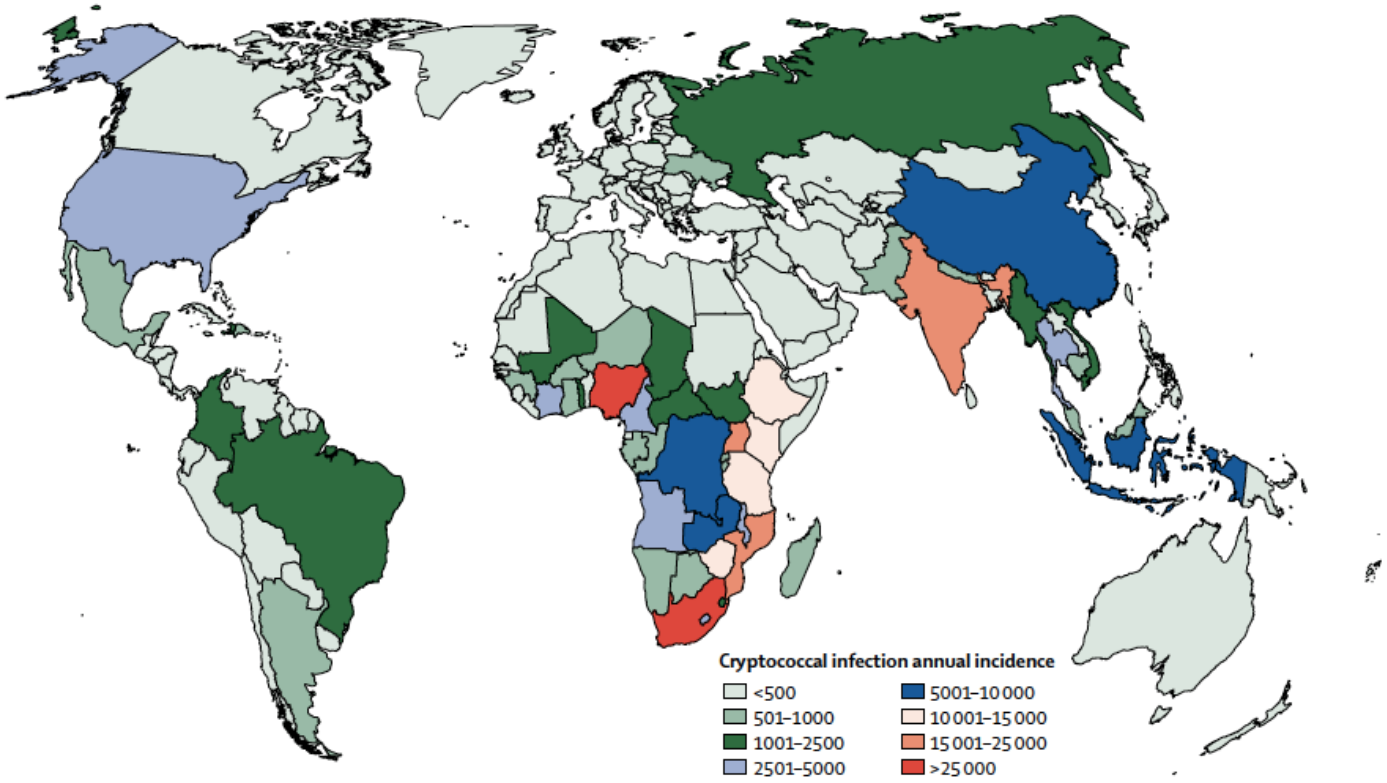
Given that CM usually presents in people living with HIV (PLHIV) with low CD4 counts and AHD, at high risk for other OIs, the management of these patients can be complex. Here we explore the current management guidelines and discuss the clinical challenges, common pitfalls, and important considerations to improve quality of care and ultimately, patient outcomes.

The treatment of CM in HIV-negative patients is very different and requires much longer courses of antifungals[8]. For the purposes of this article, we will only consider HIV-associated CM.

Diagnosis

CM is primarily diagnosed by microbiological evidence of infection in the cerebrospinal fluid (CSF), collected through a lumbar puncture (LP). The presence of cryptococcal antigen (CrAg), a component of the fungal organism itself, in the CSF, is indicative of cryptococcal infection (CrAg+). However, LPs are only performed by doctors and, in

Figure 1: Annual incidence of cryptococcal infection by country. Globally, in 2014, the annual number of people with positive cryptococcal antigenaemia was estimated at 278 000 (95% CI 195 500–340 600). The annual incident of cryptococcal meningitis was estimated at 223 100 in 2014. Reproduced from Rajasingam et al[4].



some provinces e.g. Western Cape, are not done at primary care facilities. It is therefore necessary to determine which of these patients should be referred for a lumbar puncture, using screening tools.

The most straightforward screening programme is reflex *serum* cryptococcal antigen (CrAg) testing. This reflex testis done on any blood sample received that demonstrates a CD4 count of <200 cells/uL. The presence of CrAg in the blood signifies *C. neoformans* infection with invasion into the blood, and represents a significant risk of progression to CM - as many as 70% of serum CrAg-positive patients would go on to develop CM if not treated(4,5). Knowing that a patient has disseminated infection with *C. neoformans* (CrAg+) provides a prompt to manage them appropriately. This should include the following:

1. Clinically screen the patient for symptoms and/or signs of meningoencephalitis.
2. Offer LP or referral for LP.
3. If no evidence clinically or microbiologically of CM:
   a. Provide antifungal therapy to treat the infection and prevent progression to meningoencephalitis.
   b. Provide careful initiation or re-initiation of antiretroviral therapy (ART) in patients not currently on treatment.
4. If evidence of CM:
   a. Provide antifungal treatment to meningoencephalitis.
   b. Manage raised intracranial pressure by serial LP.
   c. Defer ART initiation/re-initiation to 4-6 weeks after the start of antifungal treatment to minimise the risk of immune reconstitution inflammatory syndrome (IRIS) which carries a mortality rate of up to 80%[6].

It is important to note that some patients will refuse an LP. In these patients, careful clinical assessment for signs or symptoms which could be suggestive of CM is very important. If any of these are present, ART should not be started, and the patient should be referred for further investigations and treatment as for confirmed CM. While awaiting transfer, a first dose of fluconazole 1200mg orally can be given. If no symptoms or signs of CM are present, preventive therapy of fluconazole at 1200mg/day orally for 2 weeks can be started, and ART can be re/commenced 2 weeks later.

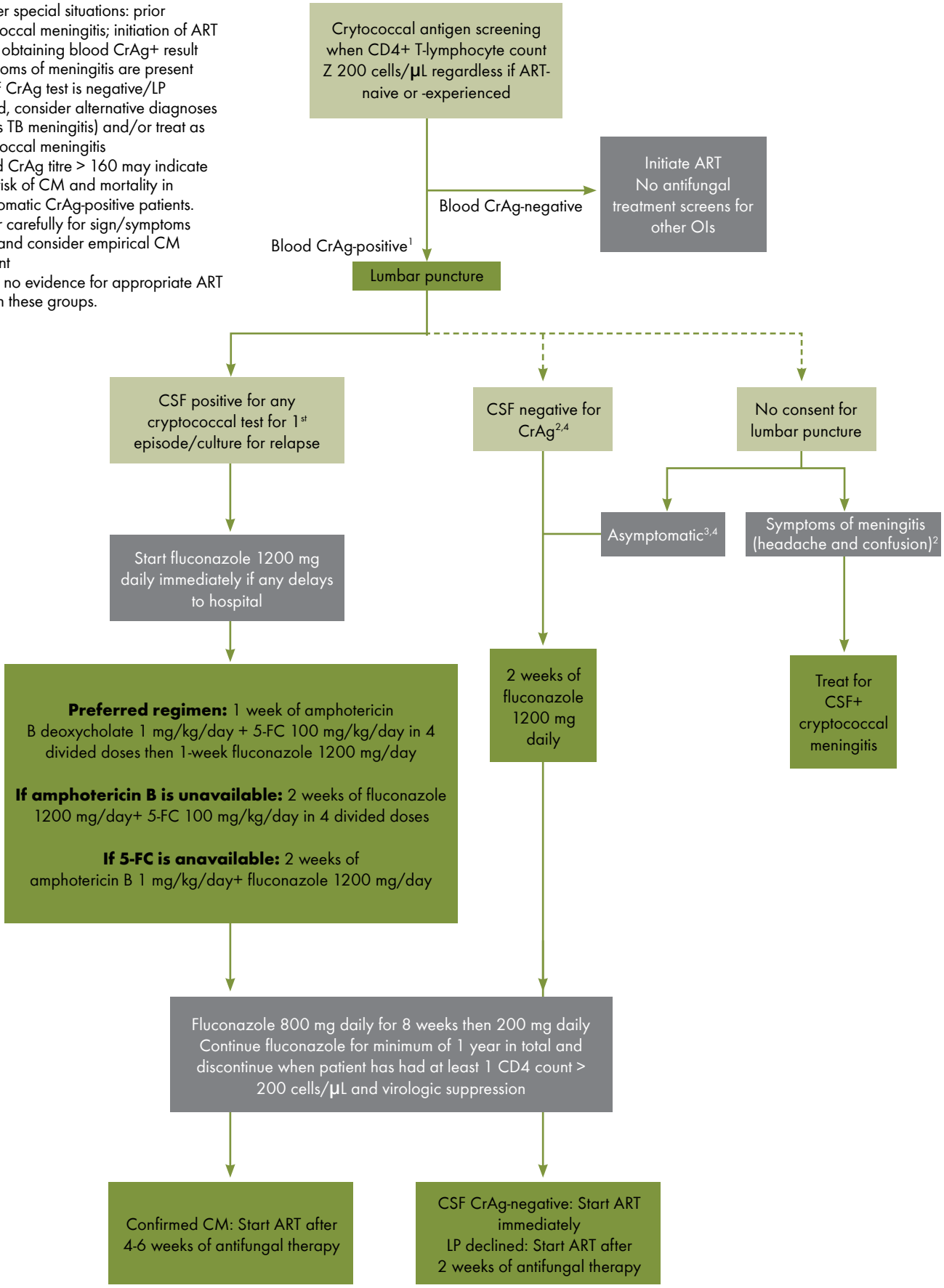
A flow diagram of the diagnosis and treatment can be found in figure 2. This has been taken from the Southern African HIV Clinicians Society (SAHCS) Cryptococcal guidelines[7].

HIV coinfection and treatment

The choice and timing of ART in patients with CM is a very important consideration. CD4 count testing is done at diagnosis with HIV, or when a patient presents after a period of disengagement from care. Routine annual CD4 testing is no longer recommended. Therefore, there is a good chance that a reflex serum CrAg test may

Figure 2: Cryptococcal antigen screening and treatment algorithm. Reproduced from SAHCS cryptococcal guidelines[7].

1. Consider special situations: prior cryptococcal meningitis; initiation of ART prior to obtaining blood CrAg+ result
2. If symptoms of meningitis are present but CSF CrAg test is negative/LP declined, consider alternative diagnoses (such as TB meningitis) and/or treat as cryptococcal meningitis
3. A blood CrAg titre > 160 may indicate a high risk of CM and mortality in asymptomatic CrAg-positive patients. Monitor carefully for sign/symptoms of CM and consider empirical CM treatment
4. There is no evidence for appropriate ART timing in these groups.



not have been done in a patient not currently on ART. On one hand, these patients usually have very low CD4 counts and the risk of other severe OIs is high, which creates a sense of urgency around starting ART. However, CM IRIS carries a high mortality risk and the benefits of a short delay in ART initiation to allow adequate antifungal therapy and fungal clearance from the CSF, outweigh the risk of other opportunistic infections[9].

The choice of ART regimen should be guided by the patient's ART exposure history and other contraindications as per the ART guidelines[10]. There are no specific drug-drug interactions between ART and standard antifungal therapies, but there are some shared toxicities which should be monitored closely.

Current treatment regimens

The current South African treatment recommendations for confirmed or suspected CM differs depending on province. The preferred recommendations as indicated in the SAHCS cryptococcal guidelines[7]are those of the WHO[11], which are implemented in the Western Cape and differ from other provinces.

For the majority of Southern Africa, where flucytosine (5FC) is not available, the following induction therapy is recommended:

Amphotericin B deoxycholate 1mg/kg daily IVI (infused over 4 hours in 1L 5% dextrose, NOT saline)
PLUS
Fluconazole 1200mg daily PO for 14 days

Where flucytosine is available, including the Western Cape under a blanket section 21 application, SAHCS recommends adopting the WHO guidelines:

Amphotericin B deoxycholate 1mg/kg daily IVI (infused over 4 hours in 1L 5% dextrose, NOT saline)
PLUS
Flucytosine 25mg/kg 6-hourly PO for 7 days
FOLLOWED BY
Fluconazole 1200mg daily PO for a further 7 days

In rare cases where amphotericin B is not available, the recommendation is:

Fluconazole 1200mg daily PO for 14 days
PLUS
Flucytosine 25mg/kg 6-hourly PO for 14 days

After the initial 14 days of induction therapy, ALL patients regardless of initial regimen :

Fluconazole 800mg daily PO for 8 weeks
FOLLOWED BY
Fluconazole 200mg daily PO for at least 1 year until CD4 >200 cells/uL and virologically suppressed

Key points relating to administration of these medications include:

1. Amphotericin B should NEVER be given with normal saline as this precipitates the drug out of the solution and does not enter the patient. Instead, it should be mixed in 1L 5% dextrose and infused intravenously over 4 hours.
2. It is NOT necessary to cover the infusion bag to protect it from light. The bag can be stored somewhere cool, away from light, and administered for up to 24 hours after mixing.
3. Patients may experience pain at the IV site or fever and rigors during infusion. This can be prevented or treated with 1g paracetamol PO single dose and the infusion rate can be slowed to run over 6-8 hours or longer if needed.
4. Amphotericin B is nephrotoxic. Toxicity can be minimised by infusing 1L saline or rehydration fluid before AND after

the dose. Urea, creatinine and electrolytes (K+ and Mg++) should be monitored at baseline and every few days while on treatment, and routine supplementation of magnesium and potassium should be given (Slow-Mag 2 tablets daily and Slow-K 2 tablets 12-hourly PO for 7 days).

5. Fluconazole and flucytosine are excreted by the kidneys and the dose must be adjusted in patients with renal dysfunction. The recommendation is:

FLUCONAZOLE:	FLUCYTOSINE:
eGFR >50mL/min: full dose	eGFR >40mL/min: full dose
eGFR <50mL/min: half dose	eGFR 20-40mL/min: 25mg/kg 12-hourly PO
	eGFR <20mL/min: 25mg/kg daily PO

6. Amphotericin B can cause thrombophlebitis. The drip site should be checked each day before administration and re-sited if needed (red, swollen, warm, tender).
7. Flucytosine and amphotericin B can cause bone marrow suppression. Full blood count should be measured at baseline and then at least weekly while on these drugs.
   a. Amphotericin usually causes a drop in Hb. Some patients may require transfusion if the Hb drops below 8g/dL. This is more common when amphotericin B is given for 14 days compared to 7 days[12].
   b. 5FC usually causes neutropaenia or thrombocytopaenia, so platelets and white cells with differential count are important as well.
8. Flucytosine is dosed 6-hourly, which is usually 10h00, 16h00, 22h00 and 04h00. The late night and early morning dosing can be challenging and easily forgotten. Even while in hospital, these doses are often omitted in our experience. Support with reminders/ cellphone alarms, pill boxes/ blister packs should be offered to all patients who are discharged while still on 5FC.
9. CM often causes raised intracranial pressure (ICP) which is most effectively treated by serial LP[13]. Clinical features of raised ICP include severe headache, blurred vision, abnormal eye movements, confusion, drowsiness, among others.

New treatments

Recent trials have made recommendations on changes to the current treatment guidelines. The ACTA trial[12] informed the latest WHO revisions to shorten amphotericin B and add flucytosine. The recently-completed AMBITION-cm trial[14] has shown that a single high dose of liposomal (lipid-bound) amphotericin B can replace 7 days of amphotericin B deoxycholate, and the ongoing ENACT trial[15] is investigating an oral amphotericin B formulation. New formulations of 5FC which require less-frequent dosing are being developed to make dosing easier. However, these developments are worthless without the drugs being made available to the patients who need them. Advocacy for access to these mediciations also forms an essential part of the broader management of CM and its importance cannot be over-estimated.

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The right to health care: How did SA fare during the COVID-19 pandemic?

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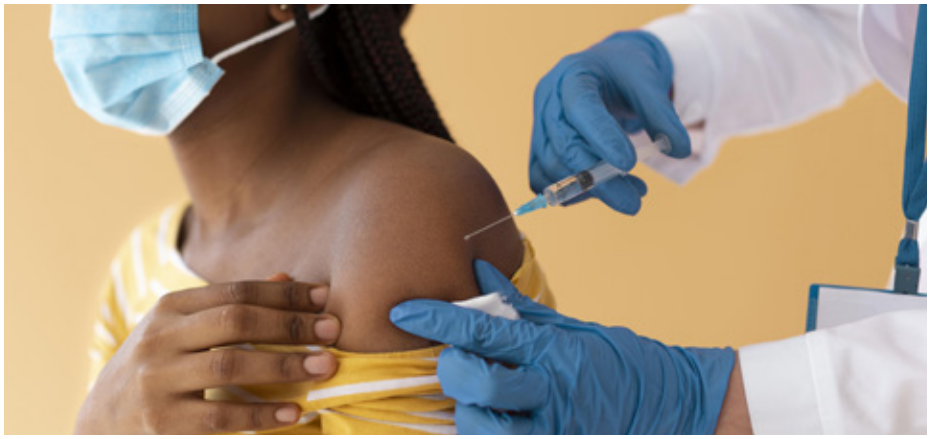
South African Bill of Rights # 27

"Health care, food, water and social security
1. Everyone has the right to have access to—
   a. health care services, including reproductive health care;
   b. sufficient food and water; and
   c. social security, including, if they are unable to support themselves and their dependants, appropriate social assistance
2. The state must take reasonable legislative and other measures, within its available resources, to achieve the progressive realisation of each of these rights.
3. No one may be refused emergency medical treatment."

South Africa is one of only 73 countries (out of 191 United Nations member states) that enshrines in its Bill of Rights, the right to health care services[1,2]. Requisite in declaring healthcare as a right, is the responsibility of consistent and effective implementation. This remains a challenge against the backdrop of inequities resulting from Apartheid and was made ever more evident during the COVID-19 pandemic. Through observation and interaction while conducting research at public healthcare facilities in Johannesburg, South Africa, it



was clear that persisting challenges with data management, human resources, and infrastructure continue to negatively impact the delivery of this right.

Data management

Data management systems are crucial for patient management and provide an opportunity for continuous and holistic healthcare provision. Research supports electronic records as being more effective than paper-based records in increasing adherence to guidelines, enhancing disease surveillance, and decreasing medication errors[3]. Additionally, electronic records tend to have an effect on human resources by reducing time spent by nurses on documentation[4]. The negative effects of inefficient paper-based data management systems intensified during the COVID-19 pandemic.

The lockdown affected the movement and employment circumstances of many citizens. Migration necessitated the use of new facilities that were more convenient. In the absence of a centralised data system, patients' recall was relied upon for medical history. In-facility recruitment and patient tracking posed numerous challenges when trying to locate and verify paper-based data. With missing files and, thus, incomplete patient histories, continuity in care delivery was severely compromised. This was particularly true for patients with chronic conditions for whom disruptions in care and prescriptions could have led to serious morbidity and even death. There is a need to fast-track implementation of innovative electronic, as well as integrated, data management systems, especially under this new normal.

Human Resources

Deficits in healthcare workers have a long pre-COVID history, as evidenced by South Africa's Human Resource for Health (HRH) Strategy identifying "supply of health professionals" as a key area of improvement[5]. Despite the decade-old commitment to resolve this issue, in-facility observations bring to the fore the continued significant understaffing challenges that were further aggravated by the COVID-19 pandemic.

The shortage of health facility staff had two main drivers. The first was COVID-19 exposure and/or infection of healthcare workers who were then required to quarantine and/or self-isolate. Secondly, healthcare workers self-reports revealed fear of severe illness and/or death from COVID-19, with some nurses opting for early retirement to spare themselves and their families from potential tragedy.

One of the more startling observations during COVID-19 was that patient vitals were not being taken. Health facilities were still experiencing the same patient volumes, but with even fewer staff than usual, putting immense strain on the remaining staff. To move the queue along, healthcare workers only took vitals for those patients they deemed "uncontrolled," even though international guidelines emphasise taking vitals at each appointment. This change in healthcare service delivery caused by COVID-19 constraints has left many patients without recorded vital signs measurements. The possibility of uncontrolled conditions gone unidentified compromises the quality of care for and the clinical outcomes of at-risk patients.

Infrastructure

Prior to the COVID-19 pandemic, health facilities serving high patient volumes already complained of inadequate space. Some facilities reported three healthcare workers simultaneously attending to three separate patients in one consultation room – a clear violation of patient privacy. Patients have a right to their privacy. This right includes not having to have conversations regarding their medical history, conditions, or treatments in front of other patients. Supplying additional consultation rooms in the form of containers outfitted for medical use or trailers, could have addressed the problems of space and privacy.

With the introduction of COVID-19 safety measures, the ability of health facilities to accommodate patients in waiting areas was considerably reduced (i.e., a 100-seater waiting room could now only fit 50). As a result of the reduced capacity and understaffing, the queues were long and slow moving. Patients had to endure hours withstanding the elements, without food or water and without easy access to clean toilets, all of which are basic needs. Some did not even get the chance to consult as they were turned away without accessing the services for which they came. In conversations with patients, some indicated that they had used their remaining financial resources for transport to access the health

facility, just to be turned away after hours in the queue. When patients have the expectation of discomfort and the potential for wasted time and money, it affects the utilisation of healthcare services, and can serve as a barrier.

Conclusion

''Freedom for South Africa has brought the opportunity at last to address the basic needs of our people. It allows us not only to attend to immediate health needs, but also to begin to eradicate the legacy of poverty and inequity that is the greatest threat to our public health.''

- Nelson Mandela, In His Own Words[6]

Unfortunately, Madiba's vision has not been entirely fulfilled. The COVID-19 pandemic has shown that the South African government still struggles to meet the basic and immediate health needs of its citizens. This was an opportunity for the government to respond to the urgent needs of its people and bolster the implementation of existing evidence-based solutions to pre-existing problems. Instead, what we have witnessed were already stressed clinics, coming under added strain due to the COVID-19 pandemic and often failing to deliver adequate care to their communities. From things as simple as benches, tents, and water stations to more advanced things, like electronic record keeping and effective management of human resources, all could have helped provide greater comfort and care. South Africa's ability to deliver on the right to healthcare demands that decision makers turn knowledge into action. Transforming what has been learnt through health systems strengthening and capacity building initiatives into real world improvements in health delivery requires moving from challenge to solution. If properly done, South Africa would be much closer to ensuring the right to dignified healthcare for all its citizens.

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Adult Optimisation Updates:

Updated TLD Guidance for Women of Childbearing Potential

With over five million patients on antiretroviral treatment (ART) in 2021, the Government of South Africa manages and finances the most extensive HIV treatment programme in the world. The antiretroviral drug TLD; a fixed dose combination of tenofovir disoproxil fumarate (TDF), lamivudine (3TC), and dolutegravir (DTG) was introduced for use in South Africa's public health sector starting 1 December 2019, to expand access to this affordable optimal drug. In accordance with World Health Organization (WHO) DTG safety risks signaled in 2018 based on early evidence from clinical trials, TLD use among women of child-bearing potential (WOCP) in South Africa was initially avoided. With emerging evidence that the DTG safety risk is less than originally suggested, it is now clear that the benefits of DTG far outweigh the potential risks for all populations.

Benefits

- **Dosing:** One tablet taken once daily
- **Neural tube defects (NTDs):** No significant difference in birth defects compared to other ARVs.
- **Drug interaction:** No drug interactions with contraception medicine.
- **Efficacy:** Superior efficacy and faster rate of viral suppression
- **Better tolerated:** Fewer side effects.
- **High generic barrier to resistance:** Difficult to fail TLD treatment.

2018: The DTG Safety Signal

In May 2018, data from a preliminary unscheduled analysis of an ongoing observational study in Botswana, "Tsepamo Study", found 4 cases of neural tube defects (NTDs) out of 426 women who became pregnant while taking DTG. The resulting rate of approximately 0.94% compared to a 0.1% risk of NTDs in infants born to women taking other antiretroviral medicines at the time of conception, triggered the WHO statement on the potential safety issue affecting women living with HIV (WLHIV) using DTG at the time of conception. However, emerging evidence from the Tsepamo study in 2019 revealed that the risk of NTDs associated with DTG use declined from 0.94% (4 in 426 exposures) to 0.3% (5 in 1,683 exposures). The difference was still significant compared to efavirenz (EFV), but overall risk considered low.

2019: South Africa's Response

In 2019, the National Essential Medicines List Committee (NEMLC) recommended that DTG be included in South African ART guidelines as a first-line agent, based on evidence of superior efficacy to EFV, and a higher barrier to resistance. However, considering 2019 evidence from the Tsepamo study, NEMLC recommended that DTG should be avoided in early pregnancy and in WOCP not on reliable contraception because of the statistically significant NTD risk.

2020-2021: Recent Updates from the Tsepamo Study

A decline in NTD prevalence from 0.3% (2019) to 0.19% (2020) has resulted in updated global guidance so that more WOCP are accessing a DTG-based regimen. The NTD prevalence has further declined to 0.15% as reported in the IAS2021 conference literature, which is a non-statistically significant difference from those exposed to other ARVs at conception.

2021: South Africa's Current Guidance

In May 2021, the NEMLC updated the 2019 guidance regarding safety and efficacy of DTG containing ART, compared with EFV containing ART in WOCP and pregnant women. Concluding that the estimate of prevalence of NTDs in infants born to women on DTG has declined since the original safety signal from the original Botswana Tsepamo study with the accumulation of further data.

"Based on the benefits to women in terms of viral suppression and reduced risk of drug resistance, and the fact that the risk of neural tube defects in infants exposed to dolutegravir in early pregnancy is no longer significantly different to those exposed to non-dolutegravir-based regimens, ***dolutegravir should form part of the preferred first line ART regimen for all adults and adolescents living with HIV, including pregnant women and women of childbearing potential, even if not on reliable contraception."***

Paediatric Optimisation Updates: ABC/3TC (120/60 mg) Dispersible, Scored Tablets

Suboptimal paediatric antiretroviral formulations have been found to negatively impact adherence in children, resulting in poor outcomes,including reduced retention in care and treatment failure. Abacavir (ABC) and lamivudine (3TC) are currently recommended as the NRTI backbone of first-line treatment for all children that weigh between 3 and 25kg. To administer ABC and 3TC, there are five single products, which are available/recommended in South Africa. These five products are available in oral solutions (syrups) and tablets. In line with current South African guidance, **ABC/3TC (120/60mg) dispersible and scored tablets can replace three of the paediatric ABC and 3TC formulations.**

Adoption of ABC/3TC (120/60 mg) will greatly reduce pill burden, ease patient and caregiver administration, simplify supply chains and generate significant cost savings. Two suppliers, namely Cipla and Viatris (formerly Mylan), have registered ABC/3TC (120/60 mg) tablet in South Africa and the product is available via a buyout. Furthermore, the product will likely be included in next ARV tender in July 2022 for wider and more sustainable access to this optimal product.

Table 1: Current ABC+ 3TC paediatric single formulation regimens dosing chart

Product	3-4.9kg	5-6.9kg	7-9.9kg	10-13.9kg	14-19.9kg	20-24.9kg
ABC (20 mg/ml) Oral Solution	2 ml bd	3 ml bd	4 ml bd	6 ml bd OR 12 ml od	8 ml bd OR 15 ml od	10 ml bd
ABC (60 mg) Dispersible Tablet	Not recommended for children <10kg			2 tablets bd OR 4 tablets od	2.5 tablets bd OR 5 tablets od	3 tablets bd
3TC (10mg/ml) Oral Solution	2 ml bd	3 ml bd	4 ml bd	6 ml bd OR 12 ml od	8 ml bd OR 15 ml od	15 ml bd OR 30 ml od

Note: this table has been simplified and does not include combinations of paediatric formulations with adult formulations - kindly refer to the Republic of South Africa: ARV Drug Dosing Chart for Children 2021, to access the comprehensive dosing chart.

ABC/3TC dispersible, scored tablets only need to be given once a day. This greatly simplifies the dosing schedule across multiple weight bands.

Table 2: Updated ABC/3TC 120/60mg paediatric dosing chart

Product	3-5.9kg	6-9.9kg	10-13.9kg	14-19.9kg	20-24.9kg
ABC/3TC (120/60 mg) Dispersible, Scored Tablet	1 tablet od	1.5 tablets od	2 tablets od	2.5 tablets od	3 tablets od

A ABC/3TC 120/60mg dispersible, scored tablet can be dissolved and mixed in a small amount of water prior to administration or can be split/crushed before mixing it with water. It can also be dissolved in a small amount of breastmilk. Further guidance on administration with both water and breastmilk is available on Knowledge Hub's e-Library (www.knowledgehub.org.za/e-library)

STEP 1: DETERMINE THE DOSE

Add the correct number of ABC/3TC tablets to a clean, empty glass or cup based on the child's weight. (See Dosing Table)

TIP: If you are administering 1.5 or 2.5 tablets, you can easily split the ABC/3TC tablet down the middle on the solid line.

STEP 2: PREPARE THE ABC/3TC MIXTURE

Add 10mL (2 teaspoons) of clean water into the glass or cup and stir until the tablets dissolve.

TIP: If the tablets do not dissolve completely (i.e., they lump together), stir and slowly add another 10ml (2 teaspoons) of extra water until the tablets fully dissolve.

STEP 3: GIVE THE MIXTURE TO THE CHILD

Give the medicine to the child to drink. Make sure they drink all the medicine right away or within a maximum of 30 minutes.

OPTION 1: The child can drink the mixture directly from the glass.
OPTION 2: Feed the mixture to the child using a spoon.

TIP: If any medicine remains in the glass, add a little more water to the glass and give it to the child. Repeat until no medicine remains in the glass.

Note: As soon as a child is developmentally able to swallow tablets, and is above 25kg, they should switch to ABC/3TC 600/300mg tablets once a day

Paediatric Products on the Horizon: Dolutegravir (DTG) 10 mg Dispersible and Scored Tablets

The South Africa National Department of Health (NDoH) HIV treatment guidelines recommend an INSTI-backbone of dolutegravir (DTG) based regimens for first-line regimens in all adults, adolescents, and children weighing ≥ 20kg. **The paediatric dolutegravir 10 mg dispersible, scored tablet (pDTG)** is a new generic formulation of DTG for first-line treatment of children living with HIV (CLHIV) who are at least one month of age and weigh between 3 and 20 kg. pDTG is the WHO preferred first-line treatment over the current PI-based regimen of lopinavir/ritonavir (LPV/r). The generic DTG 10mg dispersible scored tablet has the added benefit of easier administration and reduced pill burden, encouraging adherence and retention of children in care.

Furthermore, generic DTG 10mg dispersible scored tablets will significantly reduce the cost of HIV treatment for children weighing < 20kg - from over **R 7,360 per child per year to under R 1,840 per child per year**[1]. pDTG can be dispersed and administered in the same solution of clean water as the ABC/3TC 120/60 mg dispersible tablet, further simplifying administration and encouraging adherence. Pending SAHPRA approval, a great opportunity exists for South Africa to adopt and implement this clinically superior medication for CLHIV weighing < 20kg.

Efficacy and Use[2]
- Demonstrated efficacy with equal and, in most cases, better virologic response than comparator NNRTIs and PIs, based on SPRING2, SINGLE, FLAMINGO and DAWNING trials in adults, and ODYSSEY outcomes in children.
- DTG's high genetic barrier to developing resistance is a significant advantage over NNRTIs.
- DTG is versatile and can be used in 1st, 2nd and 3rd line regimens.
- The dispersible DTG formulation allows young infants to access optimal ART without the need for a cold chain or other inconveniences of a syrup.

Tolerability
- Better side-effect profile and improved tolerability over LPV/r - which has been associated with diarrhoea, hyperlipidaemia, and decreased bone density.
- Reduced neuropsychiatric side effects compared to EFV.
- In the entirety of the IMPAACT P1093 study, not a single child discontinued DTG dispersible tablets because of intolerance or toxicity.

Improved Adherence
- DTG is taken once daily, whereas LPV/r is taken twice daily.
- The DTG dispersible tablet allows easier administration versus LPV/r formulations.
- With its strawberry cream flavour when dispersed in water, the DTG dispersible tablet is more palatable in comparison to LPV/r's bitter taste.

Study	Design	Results	Upcoming Data
P1093[3]	The purpose of P1093 is to determine the appropriate **dose** for the paediatric DTG formulations and acquire **short and long-term safety data**, intensive and population **PK data**, and **efficacy experience** with DTG in HIV-1 infected children. These data are needed to guide potential use in children ages 4 weeks through adolescence. Sponsored by IMPAACT network: study sites in Botswana, Brazil, Kenya, **South Africa**, Tanzania, Thailand, Uganda, USA, and Zimbabwe.	PK and 4-week/24-week safety and efficacy of dolutegravir dispersible tablets among HIV-infected children aged 4 weeks to <6 years. · Drug exposure similar to adults achieved with DTG among children aged 4 weeks to 6 years · pDTG was well tolerated and easily administered by participants and their families · 75-89% of children had VL<400 c/ml at 24 weeks across age groups	Long-term safety and efficacy data pending for pDTG formulation. **Enrolling study IMPAACT 2019:** Phase I/II study of the pharmacokinetics, safety, and tolerability of ABC/3TC/DTG dispersible tablet and immediate release tablets in HIV-1 infected children less than 12 years of age. **Upcoming new study IMPAACT 2023:** Phase 1 study of safety & PK of DTG in neonates exposed to HIV-1
ODYSSEY[4]	A multicentre, randomised clinical trial to assess the efficacy and toxicity of dolutegravir plus two NRTI versus standard of care among children and adolescents living with HIV. Includes PK sub-studies on dosing and DTG + RIF (rifampicin)co-administration. Sponsored by PENTA, with 700 people to be enrolled in 30 sites in Germany, Portugal, Spain, **South Africa,** Thailand, Uganda, UK, and Zimbabwe.	· Informed use of DTG 50 mg for children weighing ≥20 kg. · Confirmed safety and PK of DTG twice daily dosing for children on TB treatment with RIF (ages 6-18y) · DTG based ART was superior to standard of care in children and adolescents starting first- or second-line treatment at 96 weeks in the ODYSSEY trial.	

References

1. Unitaid DTG 10mg Dispersible Scored Press Release, 1 December 2020 *Converted from USD to Rand using Forex rates as of 2nd December 2020.
2. Precautions must still be taken circumstances where needed (e.g., in concomitant use with other medicines such as rifampicin [RIF] for tuberculosis [TB] or anticonvulsants).
3. P1093 / PK, Safety, Tolerability and Antiviral Activity of Dolutegravir,
4. ODYSSEY

TB LAM DIAGNOSTIC ALGORITHM

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SETTING	ADMITTED, HOSPITALISED SETTING	CLINIC, OUTPATIENT SETTING, AND PATIENT AMBULATORY AND WITH SIGNS AND SYMPTOMS OF TB
STEP 1 Assess for TB signs and symptoms	All hospitalised patients are considered seriously ill. Proceed with collection of urine for LF-LAM.	**If CD4 count is ≤200 and results are not older than 6 months, perform LF-LAM.** If no CD4 count is available, this should be requested. Patients who have advanced disease and/or are seriously ill should receive LF-LAM. **IF CD4 >200, patient is not eligible for LF-LAM**
STEP 2 Perform LF-LAM test. Where possible, collect sputum and perform GeneXpert concurrently.	1. Collect urine for LF-LAM test 2. Collect sputum or any suitable specimen (e.g. CSF, lymph node aspirate, etc.) for testing on GeneXpert Ultra 3. Conduct additional clinical evaluations for TB (initiate treatment with broad-spectrum antibiotics but not fluoroquinolones for bacterial infections, consider treatment for Pneumocystis pneumonia, conduct chest X-ray (CXR) if available)	
STEP 3 Interpret LF-LAM Result	**LF-LAM POSITIVE** **Start patient on TB treatment (first-line treatment). Review GeneXpert Ultra Result**	**LF-LAM NEGATIVE** **Review GeneXpert Ultra result**
STEP 4 Review GeneXpert Result to determine clinical management response	If GeneXpert-positive, review resistance pattern **MODIFY TREATMENT REGIMEN ACCORDING TO GENEXPERT ULTRA RESULTS** If Rifampicin-resistant, follow MDR-TB treatment and clinical guidelines (2019)	**If GeneXpert-negative, consider one or more of the following options:** 1. Send sputum/non-sputum sample for TB culture and DST to rule in DR-TB. Culture and DST should be requested whenever biological samples can be obtained (if not initially available) and appropriate specialist consultation should be sought if there is poor response to TB treatment. 2. Commence antibiotics for bacterial chest infection if appropriate. 3. Perform CXR and, in inpatients, abdominal ultrasound – start empiric TB treatment if these are suggestive of TB. 4. Consider PCP if dyspnoea is a prominent symptom, if respiratory rate >30/min, or if CXR shows an interstitial infiltrate. 5. Defer treatment while awaiting cultures if patient is stable and radiological investigations do not suggest TB. Ensure patient follow up.	If GeneXpert-positive, review resistance pattern **MODIFY TREATMENT REGIMEN ACCORDING TO GENEXPERT ULTRA RESULTS** If Rifampicin-resistant, follow MDR-TB treatment and clinical guidelines (2019)

KEY DEFINITIONS

Advanced HIV disease (AHD) is defined as a CD4 cell count of fewer than 200 cells/μL or a WHO clinical Stage 3 or 4 at presentation for care. All children with HIV who are aged under 5 years should be considered as having AHD at presentation. However, it should be noted that children under 5 years who are stable on ART should not be classified as having AHD.

Seriously ill patients (adult norms) are defined based on four danger signs: respiratory rate of more than 30 breaths per minute, a temperature of more than 39 °C, heart rate of more than 120 beats per minute, inability to walk unaided and a low BMI (<18.5) and/or severely underweight or wasted.

For children, signs of serious illness include lethargy or unconsciousness, convulsions; unable to drink or breastfeed; and repeated vomiting. Other clinical conditions such as body temperature ≥39 °C and age-defined tachycardia and/or tachypnoea can be considered based on clinical judgement (WHO 2017, Guidelines for managing AHD and rapid initiation of ART).

SWITCHING STABLE CLIENTS ON FIRST- AND SECOND-LINE ART TO DTG-CONTAINING REGIMENS

DTG has **significant benefits** over other antiretrovirals, and **all clients** should be assessed to determine their eligibility for DTG → Did you know that clients on both **first- and second-line regimens** can have the benefits of dolutegravir? → Determine if the client is eligible for a single-drug switch to DTG

To be eligible for a single-drug switch to DTG, the client must meet both the following criteria:
1. VL criteria: They should not be failing their current regimen
2. Regimen criteria: They should be on a standard first or second-line regimen

1. Viral Load Criteria

Do Routine VL Monitoring on First and Second line ART Regimens:
(First VL 6 months after first line ART initiation . If virally suppressed (< 50 c/mL), repeat VL at 12 months on ART, and 12 monthly thereafter if **viral load remains suppressed**)

Remember, never switch one drug in a failing regimen!

VL < 50 c/mL

Provide information on the risks and benefits of DTG, and the use of contraception in WOCP Enable the client to make an informed decision.

Client chooses to switch to DTG

VL 50 - 999 c/mL

Do a thorough assessment of the cause of an elevated VL
Implement interventions and provide enhanced adherence support a s per revised Adherence Guideline SOPs (2020)
Repeat VL after 3 months

VL 50 - 999 c/mL

Provide information on the risks and benefits of DTG, and the use of contraception in WOCP Enable the client to make an informed decision.

Client chooses to remain on their current regimen

VL ≥ 1000 c/mL

Ensure that the elevated VL is correctly managed according to the VL results management algorithm in the 2019 ART Clinical Guideline
Do not do a single drug switch to DTG at this time
Consider a full regimen change if client is found to meet the definition of confirmed virological failure

2. Regimen Criteria

The following regimens are eligible for a single drug switch to DTG (if VL criteria are met):

	Current regimen eligible for a single-drug switch	New DTG-containing regimen
First-line regimens	TDF + 3TC/FTC + EFV	**Switch** to TDF + 3TC/FTC + **DTG**
	AZT/ABC + 3TC + EFV	**Switch** to AZT/ABC + 3TC + **DTG**
	ABC + 3TC + LPV/r (Children with weight ≥ 20 kg and < 35 kg, or < 10 years of age)	**Switch** to ABC + 3TC + **DTG**
	ABC + 3TC + LPV/r (Children with weight ≥ 35 kg and age ≥ 10 years, and renal function normal)	**Switch** to TDF + 3TC + **DTG**
Second-line regimens	AZT + 3TC + LPV/r or ATV/r	**Switch** to AZT + 3TC + **DTG**

The following regimens are NOT eligible for a single drug switch to DTG:

Adults and adolescents on non-standard second-line regimens including **TDF + 3TC/FTC + LPV/r**	**DTG should not be used without at least one active NRTI.** Patients on tenofovir (TDF)/ emtricitabine (FTC) + LPV/r are more complex as they will have had a mix of treatment exposures. Clients on second-line regimens other than standard AZT, 3TC and LPV/r should not be considered for a single drug switch to DTG, as we cannot be sure that they have at least one active NRTI in their NRTI backbone.
Children on **ABC + 3TC + LPV/r** as a second-line regimen	**DTG should not be used without at least one active NRTI.** Switching LPV/r to DTG in children applies strictly to **first-line regimens** only. If ABC + 3TC + LPV/r is used as a second-line regimen, both NRTIs in the regimen may be inactive. If DTG is considered within a second-line regimen, expert guidance should be sought to ensure that at least 1 NRTI is active.

If **LPV/r drug shortages** necessitate a regimen change, these clients should be switched from LPV/r to **atazanavir/ritonavir (ATV/r)**.
If there is insufficient stock of ATV/r, their LPV/r should be switched to **darunavir/ritonavir (DRV/r)**, or discuss with an expert

This guideline may change pending results from trials assessing 2nd line strategies.

Version 1_ 02 May 2021

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CLINTON HEALTH ACCESS INITIATIVE

2030 NDP

Clinical tips

1. Clients switched to TLD don't need to return after 1 month (unless they are new client). Those decanted on TEE who switched to TLD can stay decanted.
2. Patients with persistent low-grade viraemia (VL 50-999 copies/mL) should be discussed with an HIV expert before switching from TEE to TLD.
3. There is no longer a need for the SAHPRA Risk Acknowledgment Form to be completed before switching clients from TEE to TLD.
4. Patients in community-based adherence clubs/support groups should not be seen in groups for support and ART distribution but rather seen individually.
5. To reduce the risk of COVID-19 transmission, implement 2 monthly dispensing for all ART and TB patients across all facilities.
6. To reduce the risk of COVID-19 transmission, accelerate decanting to external pick-up points based on revised eligibility criteria.
7. Fast-track PLHIV with higher risk for severe COVID-19, patients with comorbidities and those presenting with symptoms in facilities.
8. All newly diagnosed HIV+ should initiate ART on the same day unless medical reasons to defer.
9. Before initiating ART, screen for TB and CM symptoms. Patients with symptoms should defer same-day ART initiation and be referred to a clinic for additional tests.
10. To reduce the risk of COVID-19 transmission, strengthen facility-level Infection Control Practices, including physical distancing, washing hands and correct use of PPE.
11. Support ART adherence and ensure missed appointment lists are actively managed in facilities to bring clients back in to care.
12. If you have any concerns about the stock levels of TEE or TLD, please contact your district pharmacist immediately.
13. If a couple encounters difficulty in achieving pregnancy, it is important to involve both and refer them for infertility interventions.
14. Rilpivirine should not be used as the third agent in first line regimens when VL is >100,000 copies/mL
15. Pregnant women with CD4 <350 cells/uL should be given TB preventative therapy for 12 months if not contraindicated.
16. TB Preventative Therapy should be deferred in pregnant women with CD4 >350 cells/uL until 6 weeks post-delivery.
17. The code **C#PMTCT** should be on the lab form of every VL in a pregnant or breastfeeding women, so electronic gatekeeping rules do not lead to sample rejection.
18. DTG and TAF use may be associated with weight gain. Counsel and manage patients appropriately.
19. In recurrent treatment defaulters, consider re-initiating ART with DTG or PI-based regimens (provided there are no contraindications)
20. Avoid resistance tests before 2 years in patients not virally suppressed on DTG- or PI-based regimens unless indicated
21. The dose of lopinavir/ritonavir must be doubled if the patient is on rifampicin-based TB treatment.
22. Neither atazanavir nor darunavir can be prescribed if the patient is on rifampicin-based TB treatment.

Abbreviations: ART – antiretroviral therapy; ARV – antiretroviral; CD4 – cluster of differentiation 4; IPT – isoniazid preventive therapy; PrEP – pre-exposure prophylaxis; TB – tuberculosis; U=U – undetectable = untransmissible; UTT – universal test and treat; VL – viral load.

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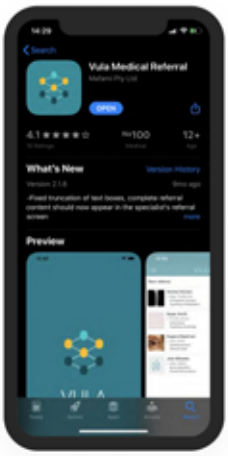

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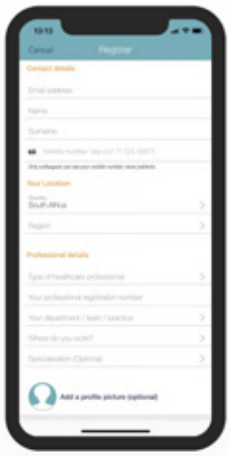

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We verify all registrations so this may take up to 24hours. If you have not received a password after that please reach out to us on:

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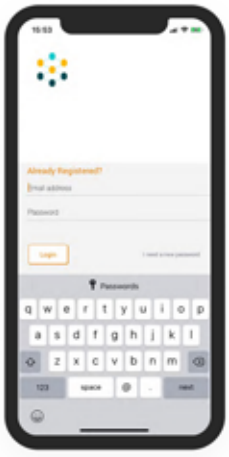
5 Login using your email & password



6 Start sending & receiving referrals

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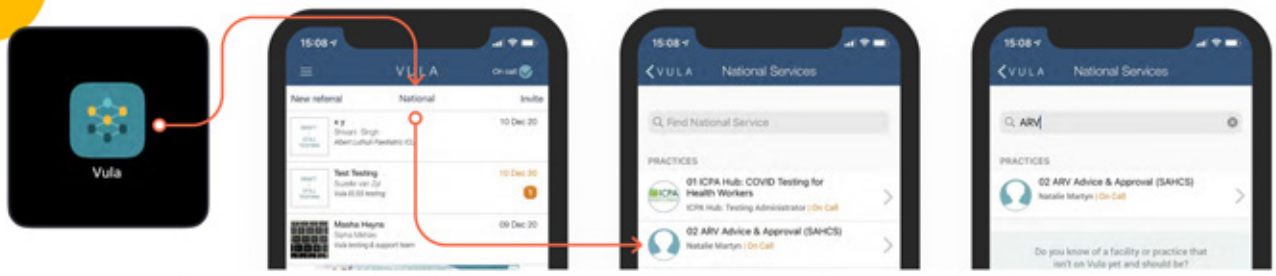
1 Start a new referral to refer a patient



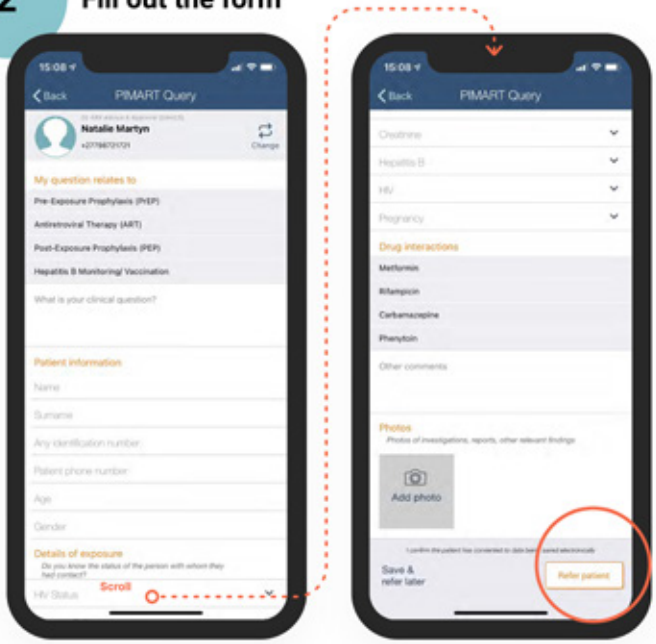
Open the Vula Medical Referral App

Click "National"

Choose "ARV Advice & Approval"

Or use the search bar to search for "ARV" and select "ARV Advice & Approval"

2 Fill out the form



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Division of Clinical Pharmacology, University of Cape Town

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Contact us - we will gladly assist you! This service is free

What questions can you ask?

The National HIV & TB Health Care Worker Hotline provides information on queries relating to:

- Pre-exposure prophylaxis (PrEP)
- Post exposure prophylaxis (PEP)
- HIV testing
- Management of HIV in pregnancy & PMTCT
- Drug interactions
- Treatment/prophylaxis of opportunistic infections
- Drug availability
- Adherence support
- Management of tuberculosis
- Antiretroviral Therapy (ART)
  - ~ When to initiate
  - ~ Treatment selection
  - ~ Recommendations for laboratory and clinical monitoring
  - ~ How to interpret and respond to laboratory results
  - ~ Management of adverse events

Who answers the questions?

The centre is staffed by specially-trained pharmacists. They have direct access to the latest information databases, reference sources and a team of clinical consultants.

When is this service available?

The hotline operates from Mondays to Fridays 8:30am - 4:30pm.

UNIVERSITY OF CAPE TOWN MIC CLINICAL PHARMACOLOGY

MEDICINES INFORMATION CENTRE

NATIONAL HIV & TB HEALTH CARE WORKER HOTLINE 0800 212 506

2022 MEMBERSHIP APPLICATION FORM

PROFESSIONAL INFORMATION

Title: ☐ Prof ☐ Dr ☐ Mr ☐ Mrs ☐ Ms **Initials:** _____ **First Name(s):** _____

Surname: _____ **Institution/Organisation:** _____

Profession (check one):

☐ Doctor Generalist ☐ Doctor Specialist ☐ Pharmacist ☐ Professional Nurse ☐ Other: _____

If Doctor Specialist, select speciality:

☐ Cardiology ☐ Clinical Pharmacology ☐ Dermatology ☐ Family Physician ☐ Infectious Diseases ☐ OB GYN ☐ Paediatrics

☐ Physician / Internal Medicine ☐ Psychiatry ☐ Other: _____

Council number (e.g. HPCSA, SANC): _____ **Practice number** (if applicable): _____

Primary Employment affiliation (please chose one):

☐ Clinic ☐ Government (non-clinical) ☐ Hospital ☐ Industry ☐ Non-governmental Organisation (NGO) ☐ Private Practice

☐ Student ☐ University ☐ Other

Professional Activities (write '1' for primary and '2' for secondary):

☐ Administration ☐ Advocacy ☐ Patient care ☐ Programme Management ☐ Research ☐ Sales/Marketing

☐ Teaching/Education ☐ Other

Please enter the year you began treating HIV patients: _____

Please indicate if you have passed a postgraduate diploma on the clinical management of HIV from one of the following institutions:

☐ Colleges of Medicine of South Africa ☐ University of KwaZulu Natal ☐ Other: _____

Year completed: _____ Year completed: _____ Year completed: _____

Professional Associations: ☐ SAMA ☐ IAS ☐ FIDSSA ☐ Other: _____

CONTACT INFORMATION

Postal Address: _____

_____ **Suburb/Town:** _____ **Postal Code:** _____

Province: _____ **Country:** _____

Telephone: _____ **Mobile:** _____

Fax: _____ **Email:** _____

DEMOGRAPHIC INFORMATION

Race/ethnicity: ☐ Black ☐ Coloured ☐ Indian ☐ White ☐ Other: _____

Gender: ☐ Female ☐ Male ☐ Intersex/Transgender **Date of Birth:** ☐☐/☐☐/☐☐☐☐

MEMBERSHIP PREFERENCES

Would you like to receive a posted copy of the Society's magazine for nurses, *HIV Nursing Matters?* (Copies are available free on the Society's website: www.sahivsoc.org) ☐ Yes ☐ No

Would you like to participate in the Society's online membership directory? (Your contact information will be available only to other Society members through the members portal on the Society's website) ☐ Yes ☐ No

How would you like to receive communications from the Society (check all that apply): ☐ SMS ☐ Email

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  for 10 staff memberships or R14,000 per annum for 20 staff memberships

Signed: _____

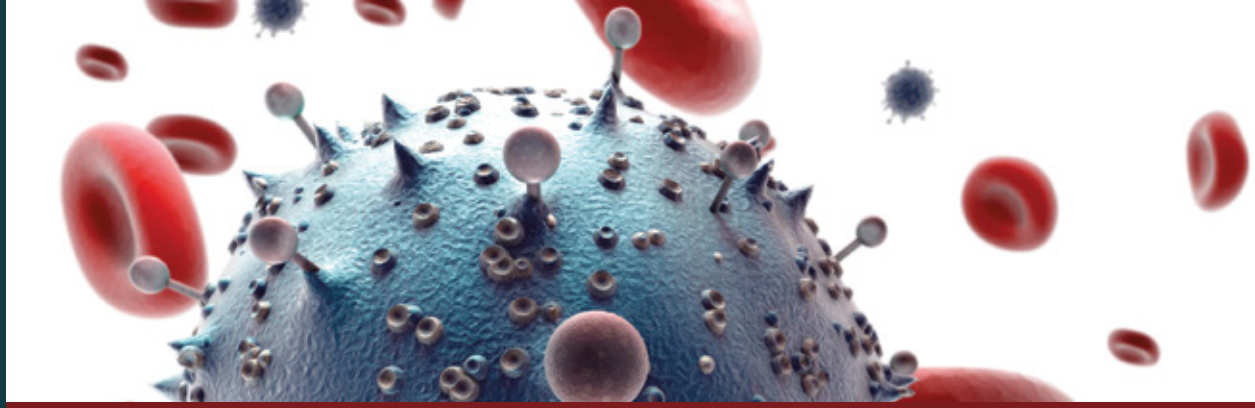
Date: _____

☐ I hereby agree to support the values and mission of the Society; and agree to the membership code of conduct

Method of payment: ☐ Electronic Transfer ☐ Direct Deposit ☐ Post/Cheque ☐ Cash Payment Date: ☐☐/ ☐☐/ ☐☐☐☐

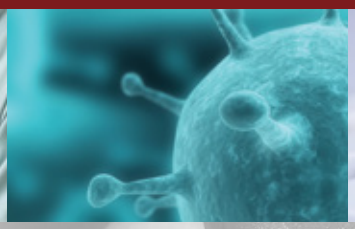
Fees are now charged for a calendar year or pro rata according to the date of application. Payments may be made by cheque or electronic transfer payable to: Southern African HIV Clinicians Society, Nedbank Campus Square, Branch Code 158-105, Account No: 1581 048 033. For alternative online payment please go to **http://sahivsoc.org/about/membership-application** and click the "**Pay Now**" button. Please reference your surname and/or membership number on the payment. Please fax or email form and proof of payment to 011 728 1251 or sahivcs@sahivcs.org or post to: Suite 233, Post Net Killarney, Private Bag x2600, Houghton 2041.

HAVE QUESTIONS? Please contact us: 011 728 7365 / sahivcs@sahivcs.org / www.sahivsoc.org



UNITING NURSES IN HIV CLINICAL EXCELLENCE, BECOME A MEMBER.






Who are we?

SAHCS is a member-based society that promotes quality, comprehensive, evidence-based HIV healthcare, by:

1. **LEADING • PIONEERING**
   We are a powerful, independent voice within Southern Africa with key representation from the most experienced and respected professionals working in the fight against HIV.

2. **CONNECTING • CONVENING • ENGAGING**
   Through our network of HIV practitioners, we provide a platform for engagement and facilitate learning, camaraderie and clinical consensus.

3. **ADVOCATING • INFLUENCING • SHAPING**
   With our wealth and depth of clinical expertise, we can help healthcare workers take their practice to a new level. We are constantly improving and expanding our knowledge, and advocating for clinical and scientific best practice.

Member benefits

Join today and gain instant support from a credible organisation. SAHCS helps connect you with the best minds in HIV healthcare. Build your knowledge, advance your profession and make a difference by getting involved now!

- Free online subscription to the PubMed Central® accredited *Southern African Journal of HIV Medicine*
- Free subscription to the SAHCS produced HIV Nursing Matters magazine
- Weekly SMS clinical tips for nurse members
- Access to CPD-accredited continuing medical education meetings / webinars (a fee applies to non-members)
- E-learning through CPD-accredited clinical case studies and online discussion group forums
- Listing in the SAHCS' online HIV provider referral network
- Access to SAHCS developed practice guidelines
- 10% discount to the registration fee for the SAHCS conference
- 10% discount to the applicable registration fees for SAHCS online training courses

SAHCS CONTACT DETAILS:

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Email: sahivcs@sahivcs.org
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